

DOCUMENT RESUME

ED 145 562

95

EA 010 029

AUTHOR Mendenhall, Diana Reed
TITLE Relationship of Organizational Structure and Leadership Behavior to Staff Satisfaction in IGE Schools. Technical Report No. 412.
INSTITUTION Wisconsin Univ., Madison. Research and Development Center for Cognitive Learning.
SPONS AGENCY National Inst. of Education (DHEW), Washington, D.C.
PUB DATE Mar 77
CONTRACT NE-C-00-3-0065
NOTE 262p.; Report from the Project on Organization for Instruction and Administrative Arrangements; Doctoral Dissertation, University of Wisconsin (Madison); Some tables and appendices may not reproduce clearly due to small print size
EDRS PRICE MF-\$0.83 HC-\$14.05 Plus Postage.
DESCRIPTORS Elementary Education; Individualized Instruction; *Job Satisfaction; *Leadership Styles; *Multiunit Schools; Predictor Variables; Principals; Questionnaires; *School Organization; *Statistical Analysis; Tables (Data); Teacher Attitudes; Team Leader (Teaching)
IDENTIFIERS *Individually Guided Education

ABSTRACT

The purposes of this study were to determine the relationship of structural aspects of the school organization and leadership behavior in schools to job satisfaction within Individually Guided Education (IGE) schools, and to determine whether organizational structure or leadership behavior had more impact on job satisfaction in IGE schools. Data were collected from 41 principals, 41 unit leaders, and 138 intermediate-level teachers in 41 multiunit IGE elementary schools in 13 different states. Major conclusions of the study were 1) leader behavior accounted for more of the variance in job satisfaction than did organizational structure; 2) total principal leadership, principal support, principal interaction facilitation, unit leader interaction facilitation, and unit leader work facilitation were the most influential leader behavior variables; and 3) formalization, stratification, unitwide centralization, building complexity, and extraschool centralization were the most influential organizational structure variables. (Author/JG)

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Technical Report No. 412

RELATIONSHIP OF ORGANIZATIONAL STRUCTURE AND
LEADERSHIP BEHAVIOR TO STAFF SATISFACTION IN IGE SCHOOLS

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by

Diana Reed Mendenhall

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Report from the Project on
Organization for Instruction and
Administrative Arrangements

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Madison, Wisconsin

March 1977

EA 010 029

This Technical Report is a doctoral dissertation reporting research supported by the Wisconsin Research and Development Center for Cognitive Learning. Since it has been approved by a University Examining Committee, it has not been reviewed by the Center. It is published by the Center as a record of some of the Center's activities and as a service to the student. The bound original is in the University of Wisconsin Memorial Library.

Published by the Wisconsin Research and Development Center for Cognitive Learning, supported in part as a research and development center by funds from the National Institute of Education, Department of Health, Education, and Welfare. The opinions expressed herein do not necessarily reflect the position or policy of the National Institute of Education and no official endorsement by that agency should be inferred.

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The Wisconsin R&D Center is supported with funds from the National Institute of Education; the Bureau of Education for the Handicapped, U.S. Office of Education; and the University of Wisconsin.

ACKNOWLEDGEMENTS

Sincere appreciation and gratitude are extended to the following individuals who contributed significantly in helping to bring not only this project but my entire graduate program to a successful conclusion:

Dr. James M. Lipham, for his dedication to the growth and development of his graduate students and the effort he spent in helping me to conceptualize clearly the components of the study.

Dr. Donald N. McIsaac, for the hours he spent in developing the computer programs for processing the data and without whose aid the analysis would have been impossible.

Dr. Richard Rossmiller, for providing prompt and insightful responses to the rough drafts of the chapters and for the support that he provided for the entire project.

Drs. Howard Wakefield and Andre Delbecq who gave their time and effort to be on my orals committee.

The Wisconsin Research and Development Center, for the financial support extended for the dissertation research.

The Department of Educational Administration of the University of Wisconsin-Madison, for the financial support extended for graduate study.

The "Mouseketeers," Barbara Bocian, Robert Feldman, and Conrad Sigurdson, for our "ups and downs" which made the project successful and gratifying.

The administrators, teachers, and students, for their participation in the project.

My friends in the R-3 and D-8 Components, for their encouragement and especially Alice DuBois, for coordination and typing which kept us all "on track."

Ola Mae and Harding Reed, my parents, for their love which supports me in any undertaking in which I am involved.

DEDICATION

To my children, MICHELLE and LARISA, for their patience and love and who were very good and quiet when "Mommy" had to study. May the lives they live be of their own choosing.

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Abstract

RELATIONSHIP OF ORGANIZATIONAL STRUCTURE AND LEADERSHIP BEHAVIOR TO STAFF SATISFACTION IN IGE SCHOOLS

Diana Reed Mendenhall

Under the Supervision of Professor James M. Lipham

The purposes of this study were: (1) to determine the relationship of the structural aspects of the organization and the leadership behavior within the organization to the organizational outcome of job satisfaction in IGE schools, and (2) to determine whether organizational structure or leadership behavior impacted more strongly on job satisfaction in IGE schools. The conceptual and theoretical foundations for the study were general systems theory, social systems theory, organizational theory, and leadership theory. The general hypotheses were tested by the following three null hypotheses:

1. There is no relationship between the organizational structure variables of complexity, formalization, stratification, and centralization and job satisfaction.
2. There is no relationship between leader support, goal emphasis, work facilitation, and interaction facilitation and job satisfaction.
3. The amount of variance in job satisfaction accounted for by the structural variables is equal to the amount of variance accounted for in job satisfaction by the leadership variables.

Data were collected on site in 41 multiunit IGE elementary schools in 13 different states. This included 41 principals, 41 unit leaders, and 138 intermediate level teachers. The instrumentation consisted of the Structural Dimensions Questionnaire, the Decision Involvement Analysis Questionnaire, the Leadership Questionnaire, and the Job Satisfaction Questionnaire.

Pearson product-moment correlations were used to test the first two hypotheses and multiple stepwise linear regression was used to test the third hypothesis. The probability level for all tests of significance was established at .05.

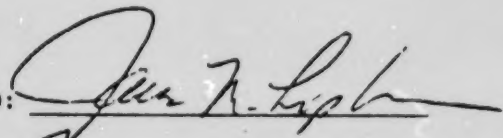
The major conclusions were:

1. There were relationships between organizational structure and job satisfaction.
 - a. There was no significant relationship between complexity and job satisfaction. The direction of the relationship was mixed.
 - b. There was a significant negative relationship between formalization and job satisfaction.
 - c. There was a significant negative relationship between stratification and job satisfaction.
 - d. There was no significant relationship between centralization and job satisfaction. However, the relationship found was in the predicted direction.
2. There were relationships between leader behavior and job satisfaction.

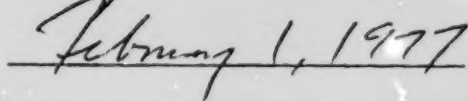
- a. There was a statistically significant positive relationship between principal leader behavior (support, goal emphasis, work facilitation, and interaction facilitation) and job satisfaction.
 - b. There was no statistically significant relationship between unit leader behavior (support, goal emphasis, work facilitation, and interaction facilitation) and job satisfaction. The direction of the relationship was mixed.
3. Organizational structure and leader behavior did not account for an equal amount of variance in job satisfaction.
- a. Leader behavior accounted for more of the variance in job satisfaction than did organizational structure.
 - b. Total principal leadership, principal support, principal interaction facilitation, unit leader interaction facilitation, and unit leader work facilitation were the most influential leader behavior variables in accounting for variance in job satisfaction.
 - c. Formalization, stratification, centralization unit-wide, building complexity, and centralization extra-school were the most influential organizational structure variables in accounting for variance in job satisfaction.

Based upon the findings, some suggestions were made for further research and administrative practice in this domain.

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CHAPTER I

INTRODUCTION

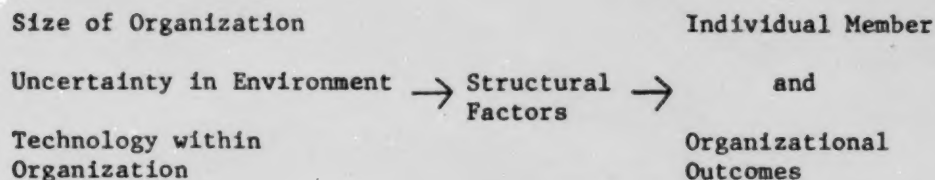
Organizations have been the focus of interest and research since the 1920's when Weber did his first writings on bureaucracy and since the early 1930's due to the Hawthorne studies, but the behavioral sciences have given intensive and concentrated attention to organizations only in the past two decades (Porter and Lawler, 1976). The major development in this area has been the advent of modern organizational theory. Organizational theory explicitly and implicitly states that the structure of organizations has an important impact on the success or failure of organizations in achieving their goals (Burns and Stalker, 1961; Porter and Lawler, 1965; Woodward, 1965; Lawrence and Lorsch, 1967; Pugh, et al., 1968; and Hage and Aiken, 1968, 1970) while various theories of individual behavior explicitly and implicitly state that the behavior, attitudes, and values of the leaders of organizations have an important influence on the success or failure of organizations (Likier, 1961; Stogdill, 1965; Bowers and Seashore, 1966; Yukl, 1971; and House, 1971). An organization which is appropriately structured and whose leaders make effective decisions and exercise leadership has a larger probability of success than one with an inappropriate structure and inadequate leadership.

Organizational theory has been concerned with several basic questions:

1. What are the determinants of organizational structure?
2. What relationship do the components of organization have among each other?

3. What are the relationships between organizational structure and organizational outcomes?

Concern with these three questions has led to the development of several models which have the following characterizations:



In the model two critical linkages are specified. First, there is a link between the determinants of structural properties and the structure. Second, there is a link between the structure and the organizational outcomes. It is with the second linkage that this present study is concerned.

The idea that different organizational structures are associated with different organizational outcomes has appeared in the writings of Weber (1947), Burns and Stalker (1961), Hage (1965), Woodward (1965), Laurence and Lorsch (1967), Pugh, et al. (1968), and Van de Ven and Delbecq (1974). The truth of this association has more often been assumed than it has been tested. Therefore, the question of which structural variables, if any, are associated with which outcome variables is important.

Structure is one element which might be associated with organizational outcomes, but there are other elements which might also explain these outcomes. One such explanatory element is the behavior of organizational leaders. Since few studies have examined the amount of variance in outcome variables accounted for by two classes of independent

variables, structure and leader behavior, the present study will examine the total amount of variance in outcomes accounted for by two classes of independent variables, the amount of variance in outcomes accounted for by each class of variables separately, and the amount of variance in outcomes accounted for by each variable separately.

In this chapter the theoretical basis and a rationale for the independent and dependent variables are presented. Organizational structure and leader behavior are discussed in relation to organizational outcomes. Significant research regarding the variables is presented.

Background of the Study

In 1966 the Wisconsin Research and Development Center for Cognitive Learning along with cooperating school systems began the development of what has come to be called Individually Guided Education in the Multiunit School (IGE/MUS-E). The IGE system is an alternative to the self-contained, age-graded schooling at the elementary and middle school levels. IGE is designed to produce higher educational achievements by providing for differences among students in learning style, learning rate, and other significant characteristics (Klausmeier, Quilling, and Sorenson, 1971a, p. 17). The IGE system is composed of seven basic components which are shown in Figure 1.1. These basic components are: the multiunit organizational-administrative arrangements, a system of individual instructional programming, a decision making evaluation system, curricular materials compatible with the instructional programming and and evaluation systems, a home-school-community relations program, a facilitative intra and extraorganizational environment for the

implementation of IGE, and a continuing research and development program for the improvement and refinement of IGE practices and concepts.

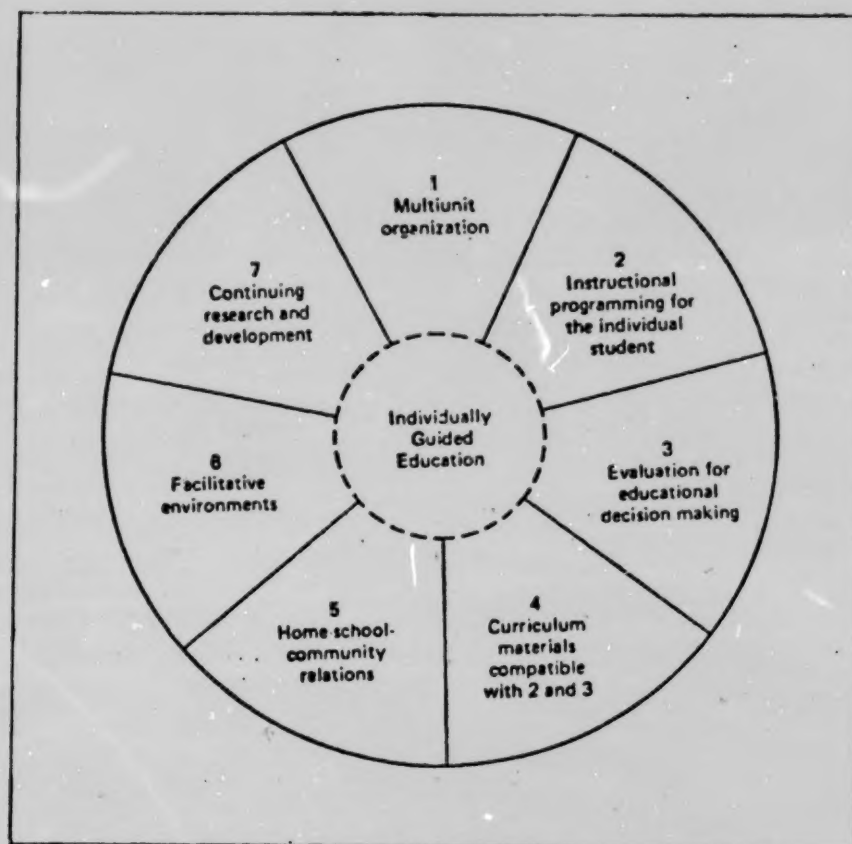


Figure 1.1--Components of Individually Guided Education

Source: Based on H. K. Klausmeier, M. R. Quilling, J. S. Sorenson, R. S. Way, and G. R. Glasrud, 1971. Individually Guided Education and the Multiunit School: Guidelines For Implementation. Chapter 2. (Madison: Wisconsin Research and Development Center for Cognitive Learning).

The focus of this study is on the multiunit administrative arrangements component of IGE. The organizational structure of the multiunit school has emerged from a synthesis of educational practices and organizational theory. The multiunit structure is designed to: articulate vertical and horizontal relationships, affix organizational roles and responsibilities, facilitate immediate and long-range planning, increase involvement in educational decision making, and improve communication among school personnel (Lipham and Fruth, 1976, p. 10).

The organizational design of the multiunit school should foster a stronger commitment to shared goals, higher educational achievement, and increased satisfaction for everyone involved. The prototypic organizational structure of the multiunit school is depicted in Figure 1.2. The organizational structure consists of three interrelated hierarchical levels: the Instruction and Research Unit (I&R Unit) at the instructional level, the Instructional Improvement Committee (IIC) at the school or building level, and the Systemwide Program Committee (SPC) at the school district level. This organizational hierarchy has several implications regarding decision making, division of labor, and leadership.

Shared decision making is facilitated by the multiunit structure. Decisions must be made at the three hierarchical levels and the structure at each of the levels permits the decisions made at each level to be shared. At the school district level, the SPC establishes policies and identifies resources which will facilitate the work of the IICs. At the building level, the ICC makes decisions about programs, objectives, and schoolwide policies. At the instructional level, the I&R Units are responsible for decisions about the use of facilities, time, and

materials to be used in the instruction of their groups of children.

Vertical as well as horizontal shared decision making is fostered by the multiunit structure. This is found in what Likert (1967) calls the linking pin function. This is an overlapping group form of structure with each work group linked to the rest of the organization by means of persons who are members of more than one group. These individuals who

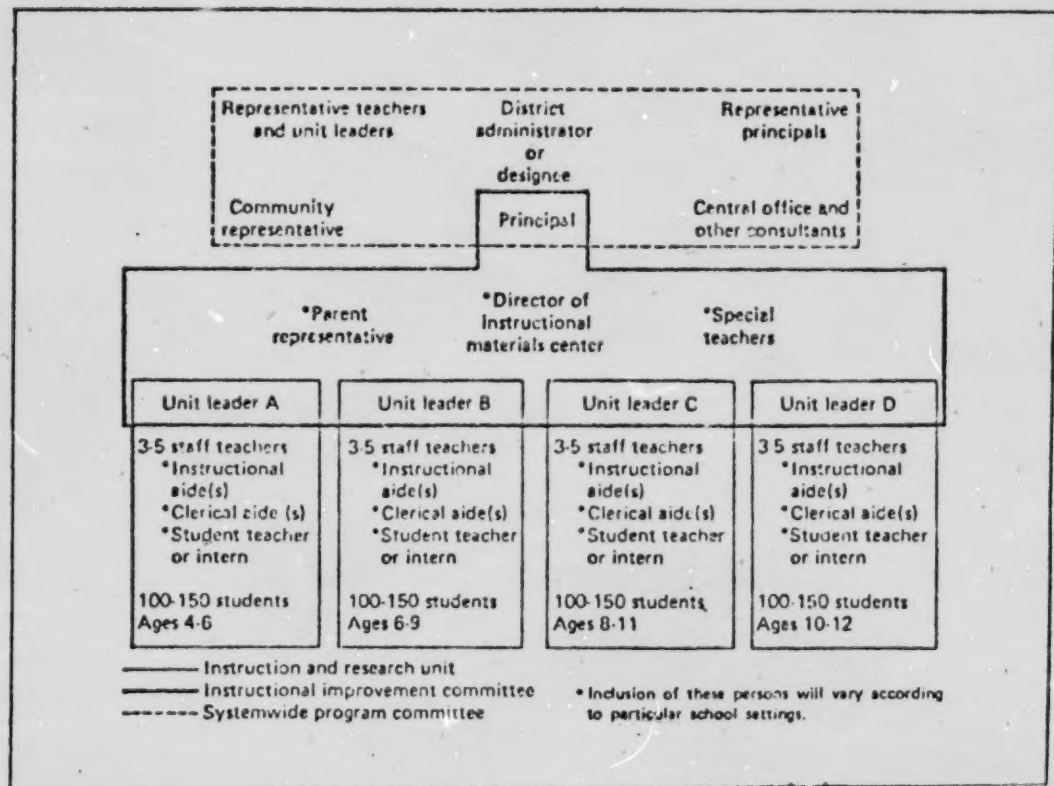


Figure 1.2--Multiunit Organization of an IGE School of 400-600 Students

Source: (Adapted from: Herbert J. Klausmeier, Richard G. Morrow, and James E. Walter, Individually Guided Education in the Multi-unit School. (Madison: Wisconsin Research and Development Center for Cognitive Learning, 1968).

hold overlapping group membership are called "linking pins" (Likert, 1967, p. 50). Figure 1.2 shows how the principal and the unit leader are each a member of another hierarchical level. The principal heads the IIC and is a member of the SPC. The unit leader heads the I&R Unit and is a member of the IIC. An advantage of these vertical linkages is that each level can take the initiative for certain decisions while receiving information from the other levels.

The multiunit organizational structure makes a flexible division of labor possible in the I&R Unit. First, no teacher is expected to be an expert in teaching in all of the curricular and instructional areas. Second, teachers are relieved of routine tasks such as record keeping and collecting money by a secretary or aide. Pellegrin (1969) found that IGE schools are characterized by a division of labor that is functional, flexible, and dynamic.

Leadership within the multiunit organizational structure is characterized by positional leadership responsibilities and also fosters emergent leadership behavior. This can be seen in the functions of the principal and the unit leader. The principal serves as chairperson of the IIC but through the process of shared decision making becomes a contributing member also. Thus positional and emergent leadership on the part of all participants is enhanced at all levels in the organization.

Role responsibilities of all staff members are affected by the multiunit organizational structure. There are three major characteristics of staff roles in a multiunit structure: (1) roles are differentiated, (2) the roles of the principal, staff teachers, and paraprofessionals are qualitatively and quantitatively different from roles

experienced in traditional schools, and (3) roles are more interdependent. It is important that the expectations of these roles are clear to each person so that the designated functions at each hierarchical level are adequately fulfilled. Because the emphasis of this study is on the building or school level, a discussion of the organization and functions of the I&R Unit and the IIC follows.

The age-graded self-contained classroom that is typically found in elementary schools has been replaced by the nongraded, semiautonomous I&R Unit in the ICE school. Figure 1.2 shows that each unit contains a unit leader, three to five staff teachers, an instructional aide, a clerical aide, a student teacher or intern, and from 100 to 150 multiaged students. The age range in a unit varies from two to four years with unit assignment based primarily on years of school attendance. The major activities performed by the I&R Unit include the following: (1) planning, conducting, and evaluating an instructional program for each child in the unit; (2) managing resources such as time, space, equipment and curricular materials in providing instructional activities; (3) relating the home, school, and the community; (4) engaging in staff development and on-the-job, inservice training; (5) conducting research and development activities to improve the learning for each student; (6) working with other agencies in research and development activities; and (7) providing internship and student teaching experiences for students enrolled in teacher education programs (Lipham and Fruth, 1976, p. 11, 34).

The staff members of the I&R Unit work together to teach a group of students through the utilization of the Instructional Programming Model (IPM). The IPM calls for the initial assessment of students,

setting up individual objectives, the placement of students in learning activities which are appropriate, postassessment, evaluating the student's performance according to his/her achievement, learning style, and preferences. The success of implementing the IPM depends upon the cooperation, interaction, communication, and shared decision making among the staff members.

The Instructional Improvement Committee (IIC) is the body that is concerned with schoolwide functions. This body is composed of the principal and the unit leaders and the major functions it is responsible for are: (1) stating the school's educational objectives; (2) outlining the school's educational program; (3) formulating the inservice program; (4) designing a program for home-school-community relations; (5) assessing the building's financial and physical resources; (6) ensuring the continuity in all curricular areas among the units in the school; (7) arranging the use of facilities and materials that are common to two or more units; and (8) coordinating the programs and activities engaged in with cooperating teacher education institutions and other agencies (Lipham and Fruth, 1976, p. 11, 35-36). The IIC's major responsibility is in the identifying and developing of the school's educational objectives and on the basis of these objectives, outlining the educational program of the school. The success of these functions determines the consistency with which ICE practices and continuity in the curriculum occurs across units. The IIC thus deals primarily with planning, decision making and coordinating the activities related to instruction (Lipham and Fruth, 1976, p. 11).

The foregoing description of the multiunit organizational-administrative arrangements shows that the multiunit structure is designed to facilitate learning and teaching through the creation of the I&R Units; gives new depth, range, and meaning to the roles of principal and staff teachers; creates the new and pivotal role of unit leader; facilitates shared decision making; fosters the assumption of responsibility for implementing decisions; increases interpersonal and group interaction; and provides a means for a more fruitful relationship between the school and its larger environment (Lipham and Fruth, 1976, p. 30-33). The basic organizational principles that undergird the multiunit form of organization can be seen in what organizational analysts call an organic or open organization. The organic or open organization emphasizes professional autonomy and authority, low stratification, informal relationships, involvement in decision making, low role specificity, innovativeness, and job satisfaction (Hage, 1965, pp. 289-320). Organizational analysts believe that the structure of an organization makes a difference in the outcomes achieved by the organizations. Since the structure of the ICE/MUS-E differs from that of the traditional school, then it follows that this new structure, along with the changes in the leadership functions within the structure, will be associated with the outcomes achieved by the school. This study is designed to discover if the structural aspects of the organization and the leadership functions within the organization are associated with the organizational outcome of job satisfaction in an ICE school.

Statement of the Problem

This study focuses on the degree to which the independent variables of organizational structure and leader behavior of principals and unit leaders are related to or impact on the dependent variable of satisfaction with various aspects of their roles. More specifically, the study investigates the interrelationships between the organizational structure of IGE/MUS-Es as measured by their degrees of centralization, complexity, stratification, and formalization; the leader behavior of IGE/MUS-E principals and unit leaders as measured by support, goal emphasis, work facilitation, and interaction facilitation; and the organizational outcome of job satisfaction with administration, co-workers, career future, school identification, financial aspects, working conditions, pupil relations, and community relations. The specific problem was first to determine the relationship between organizational structure and staff outcomes; second, to determine the relationship between principal leader behavior and staff outcomes; third, to determine the relationship between unit leader behavior and staff outcomes; and fourth, to determine whether there can be identified a set of independent variables that impacts strongly on the dependent variable.

The following section presents the theoretical framework and the rationale for the variables of the study, along with a review of relevant literature.

Theoretical Framework and Related Literature

The conceptual and theoretical foundations of this study include four theories: general systems theory, social systems theory,

organization theory, and leadership theory. This study and three companion studies by Bocian (1976), Feldman (1976), and Sigurdson (1976) are based on general systems theory as it conceptualizes the relationship between the educational system's inputs, processes, and outputs. Second is social systems theory, within the framework of systems theory, which provides the overall framework for this study, as well as providing the basis for analyzing the relationship between the institution and the individual's resultant social behavior. Third, because this study dealt with the school as an institution, a discussion and review of organizational theory presents the rationale for the structural variables included in the study. Fourth, since leadership is an element which is associated with organizational outcomes, a discussion and review of leadership theory presents the rationale and evidence for the selection of this variable.

General Systems Theory

A conceptualization for examining linkages and relationships within the school environment is provided by general systems theory. The school is a network of interrelated subsystems, each responsible for accomplishing part of the overall task of converting educational inputs into outputs (Knezevich, 1969). Systems theory is growing as an approach in educational institutions since it deals with evaluation of both product and process and includes system analysis, systems engineering, operations research, systems management, and cost effectiveness analysis. In recent years it has also become increasingly common among organization theorists to treat organizations as systems (Etzioni, 1964; Thompson, 1967; Berrien, 1968;

and Katz and Kahn, 1966). General systems theory has its beginning in the scientific management approach (Taylor, 1911; Gilbreth, 1911; Bobbitt, 1913; and Fayol, 1916), the human relations approach (Follett, 1941; Mayo, 1933; and Roethlisberger and Dickson, 1939), and the behavioral science approach (Barnard, 1964; Simon, 1945; Weber, 1947; and Parsons, 1937).

No single, all inclusive, universally accepted general systems theory exists today, but Lipham and Hoeh (1974, p. 30) have stated that various definitions exist. Berrien (1968, p. 111) defined a system as: "A set of components surrounded by a boundary which accepts inputs from some other system and discharges outputs into another system." Hall and Fagen (1956, p. 18) stated: "A system is a set of objects together with relationships between the objects and between their attributes." Grinker (1956, p. 370) said that a system is "Some whole form in structure or operation, concepts or function, composed of united or integrated parts." Thus, as stated by Katz and Kahn (1966, p. 18), systems theory is basically concerned with problems of relationships, of structure, and of interdependence, rather than the constant attributes of objects. Kenezevich (1969) placed this definition in a school setting when he stated:

...a unified systematic way of translating resources made available to it in the form of money, people with varying abilities, facilities, and processes, into outcomes, outputs, or benefits related to the educational goals of society...

It is the attention to the combination of parts and elements that make some unique whole and the focus is not on a part as it stands by itself,

but rather on how the part interacts with and is related to other parts (Porter, Lawler, and Hackman, 1975, p. 98).

Lipham and Hoeh (1974) conceptualized an educational institution as an organization that can be visualized as a general system. Figure 1.3 represents the model of a school as a general system with inputs in the form of staff members, students, facilities, and materials and outputs as transformed students and staff members. In the model it is the processes that convert inputs, in the form of operands and operators, into outputs, which alter the future activity of the system that brings into perspective the theoretical conceptualization of the second theoretical basis of this study, social systems theory.

Social Systems Theory

A framework for defining and understanding social behavior as it relates to the goals or outcomes of the educational system is social systems theory. Education, as a social system, is a social process functioning within a network of interpersonal relationships. Getzels, Lipham, and Campbell (1968, p. 54) maintained that there are three basic characteristics of such a system: (1) interdependence of parts, (2) organization into some sort of whole, and (3) the intrinsic presence of both individuals and institutions. Parsons (1951, pp. 5-6) defined a social system as:

...a plurality of individual actors interacting with each other in a situation which has at least a physical environment aspect, actors who are motivated in terms of a tendency to the 'optimization of gratification' and whole relation to their situations, including each others, is defined and mediated in terms of a system of culturally structured and shared symbols.

Carr (1955, p. 167) defined a social system as an "aggregation of individuals and institutional organizations located in an identifiable geographical locality and functioning in various degrees of interdependence as a permanent organized unit of the social order." It can be seen from these conceptualizations and definitions that social systems are concerned with the behavioral aspects of systems.

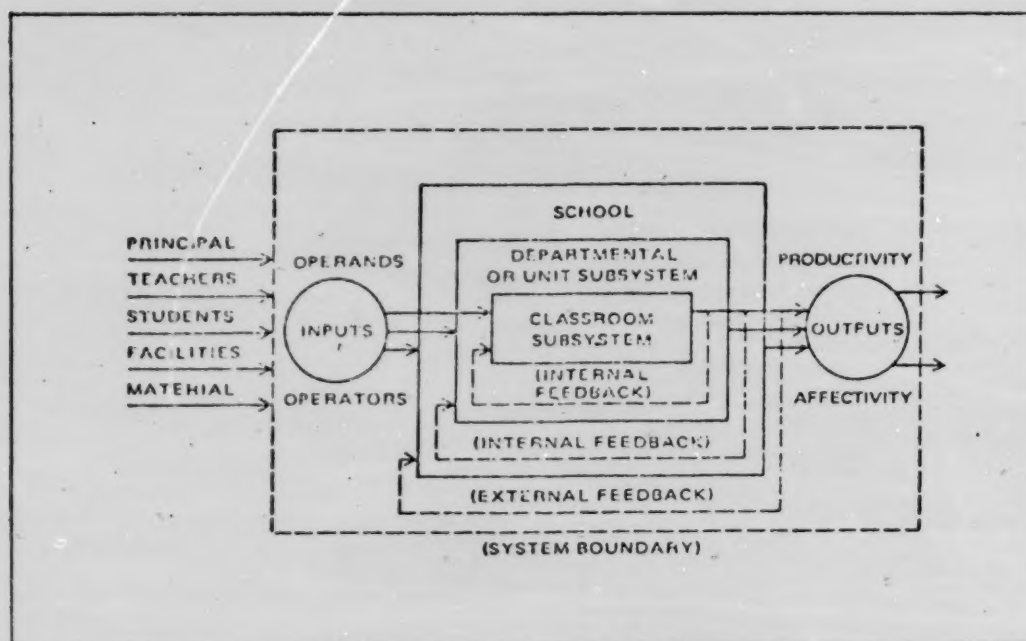


Figure 1.3--The School as a General System

Source: James M. Lipham and James A. Hoeh, Jr., *The Principalship, Foundations and Functions*, (New York: Harper & Row, 1974), p. 34.

Generally, the concept of a social system has referred to large aggregates of human interaction, e.g., a city, a region, a state, or society. Homans (1950) developed the view that the concept of a social system need not be restricted by the size of the interactions under consideration. With this in mind, Getzels and Guba (1957), Getzels and Thelen (1960), and Getzels, Lipham, and Campbell (1968) applied the concept of social systems to the school setting. Figure 1.4 presents the basic social systems model of a school.

The school as a social system has two basic dimensions, the normative or institutional dimension, and the idiographic, or personal dimension. The normative dimension is the institution with certain roles and expectations that will fulfill the goals of the system. The idiographic dimension is the group of individuals with certain personalities and need-dispositions, inhabiting the system, whose interactions comprise social behavior (Getzels, et al., 1968, p. 56). The social behavior in this model may be understood as a function of the institution, roles, and expectations which constitute the normative, nomothetic, or sociological dimension of behavior, and the individual, personality, and need-disposition, which constitute the personal, idiographic, or psychological dimension of behavior within the social system. The interactions that occur between these dimensions can be seen in Figure 1.4.

The social system, which essentially describes a process, is embedded within the general systems theory with its inputs, processes, and outputs. Figure 1.5 demonstrates how social systems theory is interactive with general systems theory. For the purposes of this study, the

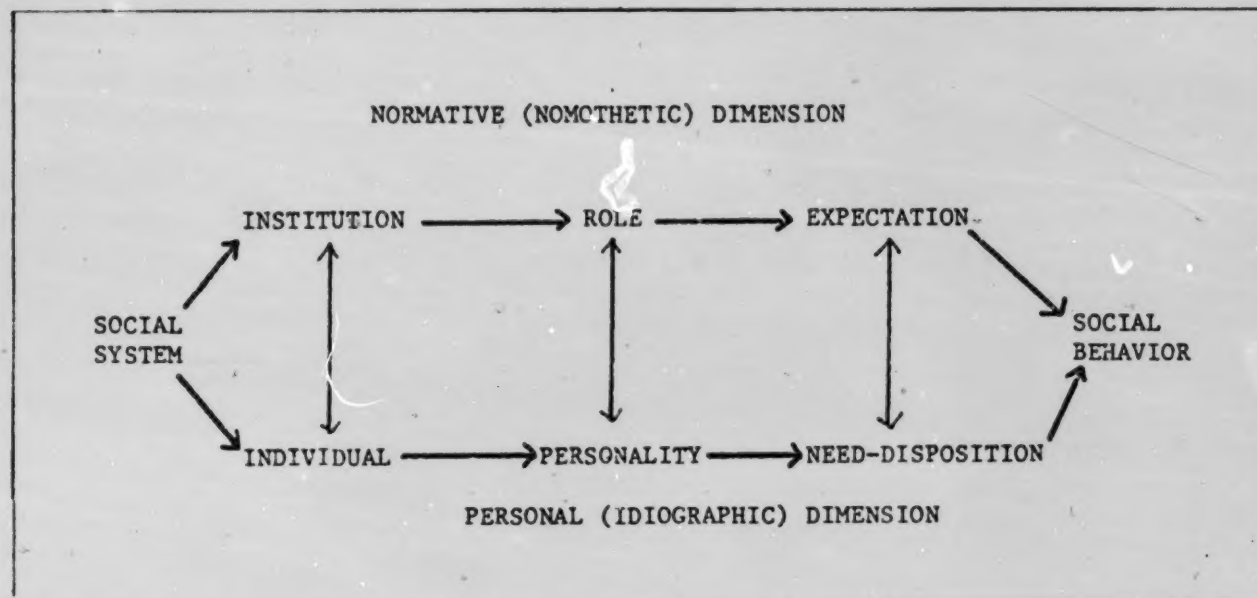


Figure 1.4--Normative and Personal Dimensions of Social Behavior

Source: Adapted from J. W. Getzels and E. G. Guba, "Social Behavior and the Administrative Process," School Review, 65 (1957), 429.

local school was taken as the unit of analysis or focal social system. The inputs are the staff, students, and financial and physical resources. The outputs are the transformed staff members. The normative dimension of the "processes" component of the school in this general systems model comprises the structure of the school and the leader behavior within the school, and the idiographic dimension comprises the staff members of the school with their personalities and need dispositions. The institutional output being considered in this study can be seen in the resulting social behavior of the staff as is seen in the job satisfaction that the staff has as a result of the interaction between the normative and idiographic dimensions within the school. The overlapping circles indicate the inter-relationship of inputs, processes, and outputs. The overlapping of the process and output circles indicates that the social behavior can be considered a process as well as an output in and of itself. For example, the job satisfaction of the staff can be viewed as a goal or output of the school system, or as a process variable which might influence other outcomes such as student behavior.

Organizational Theory

Organizational theory is the third theoretical framework upon which the present study is based. Organizations have been studied from a number of perspectives. Three perspectives from which organizations can be viewed are: (1) a psychological perspective, that is in terms of the characteristics of the individuals within the organization, (2) a social-psychological perspective, that is in terms of small groups, or (3) a sociological perspective, that is in terms of social structures.

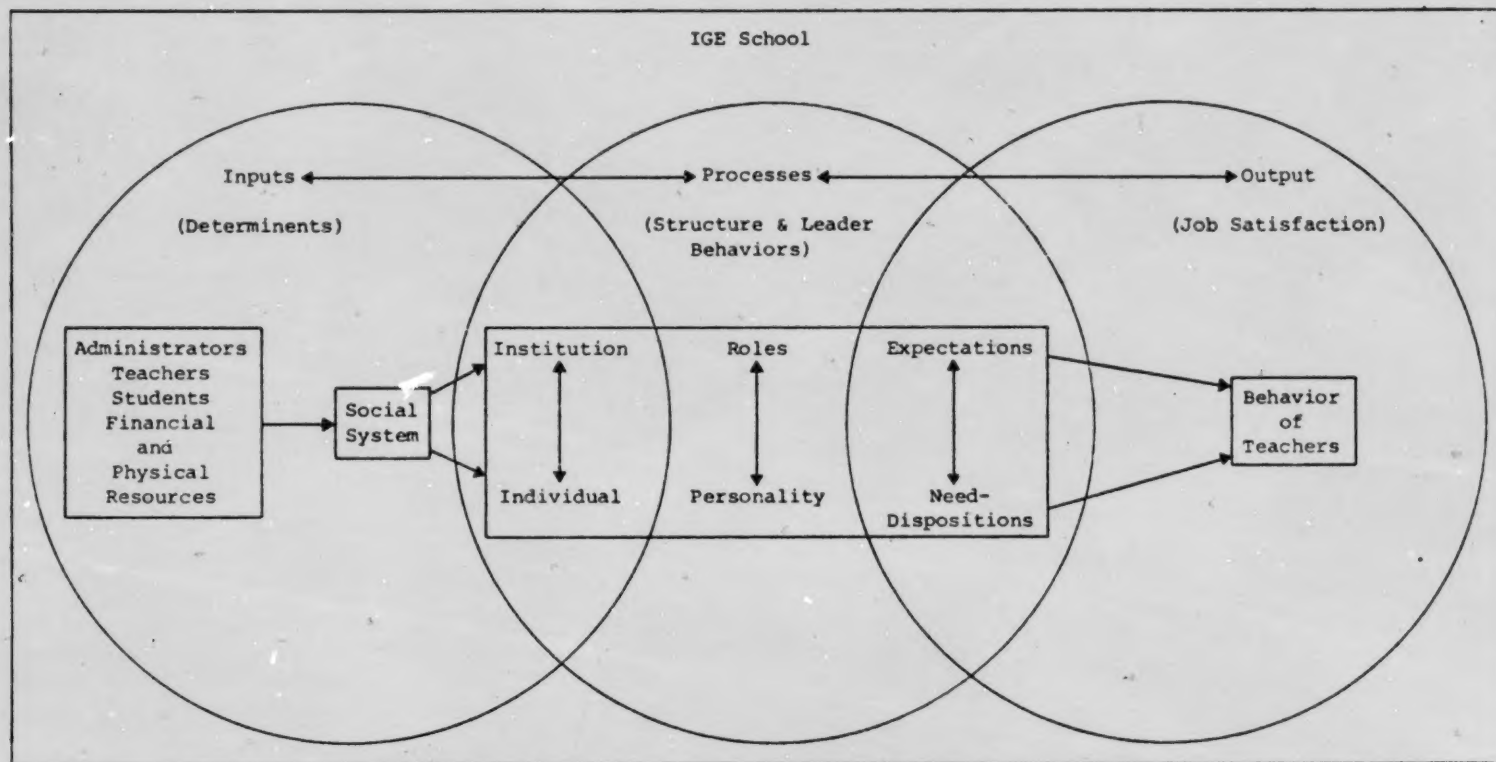


Figure 1.5--A Social System in the Framework of a General Systems Model

Each perspective views organizations in a different manner. The psychologist views organizations as aggregates of individuals each with his/her own abilities, interests, behaviors, and motives. The social-psychologist views organizations as an interaction of the individual and the job. The sociologist is concerned with jobs or social positions in collection.

The perspective of this study is sociological. Perrow (1970) called such a perspective a social-structural view. From this perspective, organizations are considered to be collections of social positions and therefore collective properties of the organization are best explained by other collective properties rather than by psychological or social-psychological properties.

The structure of an organization involves the particular arrangements among parts, the relatively enduring patterns of relationships. Complex organizations can be considered as contrived social systems and as such their structures are man made and not inherently determined by a particular set of events. Structures are therefore a matter of choice and can be altered. This is what makes structure so interesting to the organizational theorist. An emphasis on structure involves how these parts are put together to form a coherent whole and how the resulting structure affects the types of actions and behaviors that take place. In order for the organization to function, the interaction of the members of the organization must be structured. The establishment of rules of behavior and expectations of performance are necessary. Member activities must be coordinated if the organizationally defined tasks are to be completed. Authority to make decisions must be assigned since

organizations have varying amounts or degrees of uncertainty with which to deal. Communications systems are required in order to keep members informed. Therefore, organizations must have processes and structures if the organization is to function.

A school is a complex organization and the necessity for concern with organizational theory arises because the programs of the school require a high degree of coordinated effort (Lipham and Hoeh, 1974, p. 90). Schools have some characteristics that are similar to other organizations as well as some that are uniquely their own. Hage, at the University of Wisconsin, has conceived and proposed a general axiomatic theory of organizations. This theory attempts to order the structural and functional relationships within organizations and is helpful in examining the school as a complex social organization.

Central to the axiomatic theory are seven two-variable propositions drawn from the writings of Weber, Barnard, and Thompson. Propositions 1, 2, and 3 summarize much of Weber's (1947) model of bureaucracy. Propositions 4, 5, and 6 are extracted from Barnard's (1964) discussion of the functions of status systems and proposition 7 is obtained from Thompson's (1961) work. The propositions are based on eight organizational variables, four of which are inputs or means (complexity, formalization, stratification, and centralization) and are considered as variables in an organization's structure; and four of which are outputs or ends (adaptiveness, production, efficiency, and job satisfaction) and are considered as variables representing performance or functioning variables. By assuming that these means and ends form a system of

interrelated variables, Hage derived twenty-one corollaries. The twenty-one corollaries, the seven propositions, and an eighth proposition, which sets limits on the first seven, complete the theory (Appendix A).

The major theme running through the axiomatic theory is the idea of functional strains (Parsons, Bales, and Shils, 1953) or the concept of organizational dilemma (Blau and Scott, 1962). As Hage (1965, p. 296) explained, "This means that an increase in one variable results in a decrease in another variable, or that the maximization of one social mean results in the minimization of another." The axiomatic theory attempts to specify which variables are in opposition and why. These concepts must be operationally defined if they are to have any value for research. Hage provided such definitions. Since this study deals with the four means variables (complexity, formalization, stratification, and centralization) and the end variable of job satisfaction, Hage's operational definition of each of these will be discussed. Evidence to support the relationship between each mean variable and the end variable will be presented.

Complexity.--Structurally, an organization must divide its work into tasks or jobs in order to achieve objectives. Therefore, an integral component of the structure of an organization is the way in which the work is divided into specific jobs or tasks. Hage (1973, p. 294) defined complexity as the "specialization in an organization...measured by the number of occupational specialties and the length of training required by each. The greater the number of occupations and the longer the period of training required, the more complex the organization." The

basic assumption made is that the more training a person has, the more he/she is differentiated from another person who might be in a different specialty, but with a similar amount of training. Pugh, et al. (1973, p. 301) called this specialization and, defined the concept in this manner: "Specialization refers to the division of labor within the organization..." These definitions are almost the same as the definition used by Price (1968, p. 26) who stated: "Complexity may be defined as the degree of knowledge required to produce the output of a system. The degree of complexity of an organization can be measured by the degree of education of its members. The higher the education, the higher the complexity."

Hage and Aiken (1967, pp. 79-80) developed their approach further in some of their later research:

...We interpret complexity to mean at least three things: the number of occupational specialties, the professional activity, and the professional training. Organizations vary in the number of occupational specialties that they utilize in achieving their goals. This variable was measured by asking respondents to report their major duties; each respondent was then classified according to the type of occupational specialty, e.g. psychiatrist, rehabilitation counselor, teacher, nurse, social worker, and so on. The variable, degree of professional activity, reflects the number of professional associations in which the respondents were involved, the number of meetings attended, and the number of offices held or number of papers given at professional meetings. The amount of professional training was based on the amount of college training as well as other professional training.

A different approach to complexity can be seen in the work of Blau and Schoenherr (1971, p. 16) who defined complexity as the "number of different positions and different subunits in the organization," and emphasized the formal structure as defined by the organization. If an

organization has more positions and subunits then it is more complex. Hall used similar indicators of complexity. He and his associates (Hall, Haas, and Johnson, 1967) used the number of divisions within an organization and the number of specialties within the divisions to define this domain.

Hage and Aiken's research was carried out in health and welfare organizations where the emphasis on professional backgrounds was very appropriate. While this emphasis is not universally applicable in all types of organizations, it is appropriate to school systems where the major job occupants are considered to be professionals.

Conceptually, complexity is associated with job satisfaction because persons who choose to work in a profession very often choose to work in it because they enjoy doing so. These persons have expended large amounts of time and resources to obtain their professional training. They can be expected to experience satisfaction while using the expertise learned in their training programs and to experience satisfaction with the various aspects of their jobs because this is the work they chose.

Support for this rationale is found in Hage and Aiken's longitudinal study of sixteen health and welfare organizations. Hage (1973) reported partial correlations between complexity and job satisfaction for the years 1964, 1967, and 1970 to be .13, .14, and .14. March and Simon (1958) also provided evidence of this relationship through their review of the factors that affect job satisfaction. They reported that job satisfaction was higher when there was a high level of skill, i.e., high complexity.

Formalization.--Rules are found in every organization. Rules are necessary to guide operations and provide predictability. The rules and procedures designed to handle contingencies faced by the organization are part of what is called formalization (Hall, 1972, p. 173). Formalization is conceptualized as the degree of job codification in an organization and the latitude tolerated within the rules defining the job. Operationally, formalization can be defined as the degree of standardization and codification of work procedures and the degree of latitude allowed in the performance of the work. Therefore, it can be stated that the higher the proportion of codified jobs and the less the latitude allowed in the performance of a job, then the greater the organization's formalization (Hage, 1965, p. 297).

Some of the rules in an organization are written while others exist in the tradition of the organization as unwritten norms. Price (1972, p. 107, pp. 150-155) made this point by stating that "formalization should not be equated with the use of written norms," since the primary concern is "the degree to which the norms are explicit," and "the norms of an organization...can be very explicit without ever being written." Hall (1972, p. 176), on the other hand, maintained that "as a general rule, organizations that are more formalized on paper are more formalized in practice." Whichever the way they exist in an organization, they may be strictly enforced or they may be loosely observed. Hage (1965, p. 295) stated this point as follows:

Organizations learn from past experiences and employ rules as a repository of that experience. Some organizations carefully codify each job, describing the specific details, and then ensure conformity to the job prescription. Other organizations have loosely defined jobs and do not carefully control

work behavior. Formalization, or standardization, is measured by the proportion of codified jobs and the range of variation that is tolerated within the rules defining the jobs. The higher the proportion of codified jobs and the less the range of variation allowed, the more formalized the organization.

In later research, Hage and Aiken (1967, p. 79) gave the following definition of formalization:

Formalization represents the use of rules in an organization. Job codification is a measure of how many rules define what the occupants of positions are to do, while rule observation is a measure of whether or not the rules are employed. In other words, the variable of job codification represents the degree to which the job descriptions are specified, and the variable, rule observation, refers to the degree to which job occupants are supervised in conforming to the standards established by job codification. Job codification represents the degree of work standardization while rule observation is a measure of the latitude of behavior that is tolerated from standards.

Hall (1972) referred to formalization in a similar manner when he noted that rules and procedures can vary from highly stringent to extremely loose, with freedom of discretion being enhanced or limited by the extent to which behavior is preprogramed. Pugh, et al. (1968, p. 75) referred to procedures and rules as both standardization and formalization and stated that "in highly formalized, standardized, and specialized situations, the occupant of the role has his behavior highly specified, leaving him few options that he can exercise in carrying out his job."

Formalization because of its very nature is such that it is central to the life in and of organizations. The predetermination of much of what goes on in an organization is due to the specification of rules, procedures, and penalties. Formalization is a major defining characteristic of organizations, since behavior is not random and is directed toward a goal by some degree of formalization.

Formalization can be conceptually linked to job satisfaction because written policies, regulations, rules, and procedures are clear, explicit control mechanisms designed to guide behavior in accordance with organizational norms. These norms are usually imposed on individuals to insure predictable responses to specific situations (Child, 1972). However, one of the hallmarks of a profession is that it has its own set of ethics and norms which guide the behavior of its members (Kast and Rosenzweig, 1970, and Hall, 1972). It can be argued that job dissatisfaction could be caused by role conflict between the two sets of norms (Kahn, et al., 1964), but a more simple explanation is that organizational norms are redundant with professional norms, and therefore become a source of dissatisfaction. In either event, the relationship between formalization and job satisfaction in professional organizations should be negative (Miller, 1967).

Hage (1973), reporting results from the Hage and Aiken longitudinal study of sixteen health and welfare organizations, found partial correlations of $-.25$, $-.38$, and $-.21$ for the years 1964, 1967, and 1970, between formalization and job satisfaction. George Miller (1967) analyzed the degree of alienation experienced by scientists and engineers in the aerospace industry. He found that the organizational structure in which these professionals worked was related to their degree of alienation from work and that the greater the degree of formalization in the organization, then the greater the likelihood of alienation from work. Palumbo (1969) explored the question of role specificity in local public-health organizations. He found that departments with highly specialized

roles tended to be more formalized and had lower morale. Blau and Scott (1962) reported that routinization of tasks was associated with a low degree of job satisfaction and a high level of turnover. Aiken and Hage (1966) found that alienation from work was more prominent in social health and welfare agencies characterized by high degrees of formalization than in those agencies characterized by low degrees of formalization. The results of the Aiken and Hage study supported Hall's (1970, p. 187) contention that for professionals, "the greater the degree of formalization in the organization, the greater the likelihood of alienation from work." Blau (1968, p. 458), similarly stated that organizational specialists "are more likely to resent having their discretion limited by managerial directives than employers whose lesser skills make them welcome some guidance."

Stratification.--Stratification refers to the differential distribution of rewards to the role incumbents of a job in an organization. All organizations distribute rewards to job occupants in terms of such things as salary or prestige. The way in which these rewards are distributed or are possessed by job occupants result in status differences. Some organizations distribute these rewards obviously and they can be seen in such things as the name plate or title on the door, the thickness of the carpet on the floor, or in the higher salary of the job occupant. Other organizations have much more subtle distribution of rewards such as the treatment of some individuals as confidants or the giving of latitude to some individuals in the observance of rules and procedures. Thus, some individuals in the organization attain greater status than others,

whether the means of attainment are formal or informal.

Operationally, stratification can be defined in terms of the number of levels of authority and the degree to which there are perceived differences in salary and status between these levels. Hence, the more easily the reward symbols are attained by job occupants, the more open the system. The more difficulty that job occupants have in attaining reward symbols, the more closed or stratified is the organization. Stratification occurs in all organizations, but the difference is that in some organizations there are minimal differences in status and in others there are substantial differences in status. Therefore, the greater the difference between the higher and lower levels of an organization and the lower the rate of mobility between them, the greater the degree of stratification.

The conceptual link between stratification and job satisfaction has been operationalized in terms of whether or not lower status members of the organization perceive themselves to be valued members of the organization. If the lower status organizational members perceive themselves to be valued, then this perception should contribute to high job satisfaction. If they perceive themselves not to be valued, this perception should contribute to low job satisfaction.

Barnard (in Carver and Sergiovanni, 1969, p. 51) was concerned with the consequences of status systems and noted that status systems are "fundamentally determined by the necessities associated with the needs and interests of individuals as biological and social units; and upon the requirements arising from the physical and social limitations inherent in systems of cooperation." Status systems arise out of the

need to ameliorate the differences which exist in individual ability, task complexity, task importance, and the need for a system of organizational communications. The status system can provide a framework for the acceptance of these differences and the protection of individual integrity. Barnard further stated (1969, p. 56):

...much experience demonstrates that those who are unequal cannot work well for long as equals. But experience also demonstrates that where differences of status are recognized formally, men of very unequal abilities and importance can and do work together well for long periods.

An essential function can be served by a status system by providing for organizational coherence, cooperation, and morale, but it can also generate uncontrollable organizational rigidity and hypertrophy, resulting in dysfunctional consequences for the organization. Barnard (1969, p. 57) warned that the status system can (1) distort the evaluation of individuals, (2) exaggerate administration to the detriment of leadership, (3) exalt the symbolic function beyond reasonable levels, and (4) limit the adaptability of an organization. He viewed stratification as a method for ensuring the incentive to work hard because it specified a clear line of advancement and the motivation to work hard would increase production because of greater effort. The dysfunctional consequence of stratification in this sense is that stratification satisfies the person at the top, but not the person at the bottom because it builds in failure due to the fact there are a limited number of jobs at the top (in Etzioni, 1961, pp. 82-98). Barnard (in Carver and Sergiovanni, 1969) also noted that status systems tended to reduce mobility or circulation of elites (this is the second indicator used to

measure stratification) and this caused lowered job satisfaction and resulted in injustices.

Several studies have examined the dysfunctional consequences of status systems. Blau and Scott (1962, p. 122) found that status differences resulted in the reduction of informal relationships and the lessening of emotional support, and this caused dissatisfaction. Hage (1973) reported a negative correlation of .50 between stratification and job satisfaction. Brown and Shepard (1956) found that differences in status adversely affected interaction rates inside and outside of a naval research and development center. Herrick (1974) reported a significantly negative relationship between the degree of stratification and overall teacher motivation in IGE elementary schools. Blau and Meyer (1971) reflected the general view that status rigidities are dysfunctional because the required ranking system often becomes an end in itself. Dalton (1950, pp. 342-351) reporting on the relations among management members in industrial bureaucracies stated that status:

...could be viewed as a general conflict system caused and perpetuated chiefly by (1) power struggles...from competition between departments...; (2) drives...to increase...status; (3) conflict between union and management; and the staff-line friction.

The general findings of these studies highlight a crucial organizational paradox. Stratification makes job occupants work harder, but they do not like it, and this in turn may lead to lower job satisfaction.

Centralization.--"Centrality" is a structural-type variable that has a variety of meanings. As Pfflner and Sherwood (1960, p. 190) have put it,

The contemporary trend in large-scale organization is toward decentralization, but we must realize that decentralization

is several things to different people. There are those who view it entirely in terms of decision-making; others see it from the standpoint of geographical dispersion of plants and installations; and still others approach it as a philosophy of corporate life, a set of organization values with sociological, psychological, and spiritual facets.

Organizational theorists such as March and Simon (1968), Argyris (1964), and Etzioni (1964) have been concerned with centralization in terms of decision making as it concerns the involvement of individuals. Hage (1965) conceptualized centralization as the degree to which power is distributed in an organization to make decisions about the allocation of resources.

Everyone in an organization has to make decisions, but not everyone can participate in the decisions that the organization considers to be important. Some organizations allocate power to only a few job occupants, while other organizations allow for a much wider range of participation. Therefore, centralization or hierarchy of authority is operationally measured by the proportion of jobs or occupations whose incumbents participate in decision making and the number of areas in which they participate. The lower the proportion of incumbents who participate in decision making and the fewer the decision areas involved, the more centralized the organization. "The dimension of authority structure that distinguishes one organization from another is whether authority is concentrated among a small group of individuals at the very top of the structure, or whether it is widely dispersed among a number of different echelons and units such that these units and individuals have a relatively high degree of autonomy" (Porter, Lawler, Hackman, 1975, p. 258).

There are many debates in organizational literature about the relative merits of decentralization as opposed to centralization of decision making. Weber (1947) argued that strict hierarchy of authority increased production and efficiency in an organization. The human relationists argued that decentralization increases job satisfaction and reduces resistance to change (Coch and French, 1948; Reimer, 1955). According to Chandler (1956) the movement to decentralization can be traced to the management policies of Sloan, at General Motors in the 1920's. Thompson (1965) made the observation that as the number of occupational specialties increases there is an inevitable strain toward decentralization. Similarly, Blau, et al. (1966) reported that centralization of authority is promoted by division of labor only if the staff is not professional. Therefore, the conceptual link between centralization and job satisfaction can be seen in the work of the writers who have claimed that by offering increased autonomy for the individual regardless of his level within the organization, decentralization improves job attitudes (Baumgartel, 1956; Argyle, et al., 1958; Vroom, 1959; Bachman, Smith, and Slesinger, 1966; Yukl, 1969; Tosi, 1970). The reasoning goes that the professional has expertise in his area and he/she has been trained to make decisions in that area. The professional, because of expertise, expects to have a voice in decisions which affect the situation in which one works. The professional can be expected to become dissatisfied if people make decisions which impact on his/her work situation and about which he/she has no voice. Alternatively, the professional's satisfaction can be expected to increase if he/she is consulted before those decisions are made. The available evidence indicates that

employee participation in decision making (low centralization) tends to be positively associated with employee satisfaction, and, conversely, that lack of participation in decision making (high centralization) tends to be negatively associated with employee satisfaction.

March and Simon (1958) in a review of the factors that affect job satisfaction found that it was higher when there was autonomy in decision making, i.e., low centralization. Blau and Scott (1962) showed that the routinization of tasks was associated with high centralization and low job satisfaction. Hage (1973), reporting the results of the longitudinal study of sixteen health and welfare agencies, had partial correlations of $-.61$, $-.29$, and $-.67$ between lack of participation in decision making and job satisfaction for 1964, 1967, and 1970. Aiken and Hage (1966) also found that alienation from work and alienation from expressive relations were more prominent in agencies characterized by a high degree of centralization. Smith and Ari (1964) in a nationwide study of a service organization report a correlation of $.55$ between perceived self control and morale.

Bridges (1967, p. 51) in a review of participation studies stated, "Studies conducted in educational settings lend weight to the position that participation does increase a teacher's level of satisfaction in teaching, his enthusiasm for the school system where he works, and his positive attitudes toward the principal." Schmuck and Blumberg (1969, p. 104) in relating job satisfaction and participation in an educational setting reported:

Participative decision making in organizations seems to make for more productive problem solving and an enhanced sense of satisfaction and organizational identity...

Likewise, Fraser (1967) observed that secondary and elementary teachers were least committed and satisfied in highly centralized school systems. Similarly, other studies conducted in educational settings have found that there is a positive relationship between job satisfaction and decision participation and involvement (Chase, 1952; Sharma, 1950; Belasco and Alluto, 1972; Ambrosie and Heller, 1972).

Job Satisfaction.--In 1972, the U. S. Department of Health, Education, and Welfare sponsored a study concerning work in America. This study found that there is widespread dissatisfaction on the part of many citizens with their jobs (Porter, Lawler, and Hackman, 1975). In the Sunday edition of the Wisconsin State Journal for April 18, 1976, an article was headlined: "Congress Takes a Look at Why We Hate Our Jobs." The article went on to state:

...Congress, which most often worries about the plight of the unemployed, is starting to focus on the quality of working life of the great majority of adult Americans who do hold jobs. A Senate Labor and Public Welfare subcommittee headed by Senator Gaylord Nelson (D-Wis.) held the first two in a series of planned public hearings this month on changing work patterns in America in an effort to learn how government and private industry are responding to worker dissatisfaction...without job satisfaction, the prosperity and continued well-being of this nation's economy are put in jeopardy.

Job satisfaction has been of great interest to individuals, organizations, and entire social systems for many years. Hundreds of researchers have conducted thousands of studies utilizing job satisfaction measures as both dependent and independent variables of theoretical and applied importance. Many organizations have systematically examined measures of job satisfaction as organizationally relevant outcomes and as sources of other important outcomes. Entire social systems have

considered job satisfaction to be culturally relevant as reflected by the thousands of studies conducted or supported by governmental agencies. It is generally believed that the study of job satisfaction should be able to contribute to the theory and application of motivation, attitudes, behaviors, and preferences within organizations (Smith, 1957). Unfortunately, as Evans (1969), Loeke (1969), and Schwab and Cummings (1970) have correctly pointed out, there is a serious lack of theory about the very meaning of job satisfaction.

The problem of job satisfaction has been of concern to both social and industrial psychologists. The relationships of satisfaction to other variables are far from clear, despite the great deal of work in this area (Herzberg, Mausner, Peterson, and Copwell, 1957). Findings that were previously accepted by many as fact are now being called into question (Hulin and Smith, 1963; Smith and Kendall, 1963) and in other areas of job satisfaction, findings have been so conflicting and equivocal that there is no semblance of a general law (Brayfield and Crockett, 1955).

Part of the reason for the early interest in job satisfaction was the widely held belief that people who are satisfied should perform better in organizations. This belief prevailed for several years among laymen and organizational theorists alike. There were, however, a number of embarrassing exceptions to this hedonistic principle, and when concerted research efforts failed to provide evidence in support of a causal relationship, new conceptualization began to emerge. These conceptualizations generally took the form of attempts to provide a theoretical rationale for the absence of a direct relationship including

the postulation of a variety of moderator variables. Chase (1960) and Porter and Lawler (1967), developed a model which reversed the previously assumed relationship and postulated that satisfaction was caused by performance, rather than causing it. Schwab and Cummings (1970) in an extensive review of a number of theoretical positions concerning the relationship between satisfaction and performance frankly questioned the value of further satisfaction-performance theorizing. They, along with Katz (1964), provided sound evidence that performance and satisfaction can be treated as unrelated dependent variables. This is exactly the position that Hage took in his axiomatic theory. Job satisfaction was included in this essentially structuralist view of organizations as a variable representing the human element within organizations. Hage and Aiken (1970, p. 27) stated that "organizations must maintain at least a minimal level of morale and loyalty among employees if they are to survive."

Hage defined job satisfaction as a summary measure of satisfaction with working conditions and the rate of turnover in job occupants per year. In a paper delivered before the World Congress, Hage (1973) reported the following correlations from the 1964, 1967, and 1970 data gathered from sixteen health and welfare agencies:

	<u>Year</u>	<u>Job Satisfaction</u>
Complexity	1964	.13
	1967	.14
	1970	.14

	<u>Year</u>	<u>Job Satisfaction</u>
Formalization	1964	-.25
	1967	-.38
	1970	-.21
Hi Centralization	1964	-.61
	1967	-.29
	1970	-.67
Stratification	1964	-
	1967	-
	1970	-.50

A count of the entries in the matrix indicates that all of the correlations of structural variables with job satisfaction were in the predicted direction, but with an N of only sixteen organizations, only the 1964 and 1970 correlations between centralization and job satisfaction were high enough to be meaningful.

Leadership Theory

One of the most researched and least understood variables in organizational literature is leadership. The history of leadership research is a fitful one as conceptions and inquiry about it have shifted. For decades, writers have been intrigued by the idea of specifying predictable relationships between what an organization's leader does and how the organization fares (Bowers and Seashore, 1966). Historically, there have been three approaches concerning the study of leadership:

the trait approach, the situational approach, and the behavioral approach. Hollander and Julian (1969, p. 387) traced this history in the following way:

The psychological study of leadership in this century began with a primary focus on the personality characteristics which made a person a leader. But the yield from this approach was fairly meager and often confused, as Stogdill (1948) and Mann (1959) among others documented in their surveys of this literature. In the 1930's Kurt Lewin and his co-workers (Lewin, Lippitt, and White, 1939) turned attention to the "social climates" created by several styles of leadership, that is, authoritarian, democratic, or laissez-faire. Together with developments in the sociometric study of leader-follower relations (Jennings, 1943), this work marked a significant break with the past...Two residues left by Lewin's approach fed importantly into later efforts, even with the limited nature of the original study. One was the concern with "leader style," which still persists, especially in the work on administrative or managerial leadership (McGregor, 1960, 1966; Preston and Heintz, 1949). The other was the movement toward a view of the differential contexts of leadership, ultimately evolving into the situational approach which took firm hold of the field by the 1950's (Gouldner, 1950).

Recent research in the behavioral sciences has looked extensively at the leadership question, yet incongruities and contradictory or unrelated findings seem to crowd the literature. Hollander and Julian (1969) presented an overview of the contemporary trends in the conceptualization and study of leadership. They reviewed earlier conceptualizations which emphasized either situational factors or the traits of the leader, and then described some trends toward a more satisfactory approach. Bowers and Seashore (1966), also noted the shift in research emphasis from a search for universal leadership traits to a search for leader behaviors that make a difference in the performance and satisfaction of followers (Scott and Cummings, 1973, p. 430). These authors made the suggestion that leadership is comprised of aggregates of separate behaviors which may in turn be grouped in a variety of ways and which are believed to be

instrumental in controlling the behavior of others. They offered a four-factor classification of leader behavior which may be related to organizational effectiveness. It is this four-factor theory of leadership which is the fourth theoretical base of this present study.

Four-Factor Theory of Leadership.--The four-factor theory is the result of an integrative effort attempting to bring together much of the work done at Ohio State University and the University of Michigan. Seashore and Bowers (1966, p. 238) have leadership as "organizationally useful behavior by one member of an organizational family toward another member or members of that same organizational family." By defining leadership in this manner, it amounts to a large aggregation of separate behaviors which may be grouped or classified in a variety of ways. There were several classification systems from previous research that were used in the development of the four-factor theory.

First, there was the work done at the Bureau of Business Research at Ohio State University. They undertook the construction of an instrument for describing leadership with a list of nine dimensions or categories of leadership behavior. This became the Leader Behavior Description Questionnaire. Hemphill and Coons (1957) factor analyzed the instrument and simplified its conceptual framework by obtaining three orthogonal factors. Halpin and Winer (1957) revised the instrument and factor analyzed their results and produced four orthogonal factors: (1) consideration, (2) initiating structure, (3) production emphasis, and (4) sensitivity or social awareness. The Halpin and Winer analysis is the more widely known and used and has identified "consideration" and

"initiating structure" as "the Ohio State" dimensions of leadership. Consideration refers to the degree to which a leader acts in a warm and supportive manner and shows concern and respect for his subordinates. Initiating Structure refers to the degree to which a leader defines and structures his own role and those of his subordinates toward goal achievement.

At the same time the Ohio State studies were being conducted, a similar program was in progress at the University of Michigan Survey Research Center. This program developed two concepts called (1) employee orientation and (2) production orientation (Katz, Maccoby, and Morse, 1950; Katz, Maccoby, Gurin, and Floor, 1951). Katz and Kahn (1951) writing from a greater accumulation of findings, presented a conceptual scheme with four dimensions of leadership: (1) differentiation of supervisory role, (2) closeness of supervision, (3) employee orientation and (4) group relationships. Differentiation of supervisory role is similar to the initiating structure of the Ohio Studies and clearly derives from the early concept of production orientation. Closeness of supervision corresponds to maintenance of membership character, consideration, and employee orientation. It also corresponds with initiating structure to the earlier concept that was called by the same name, while group relations relates to the interaction facilitation and social sensitivity of the Ohio State studies.

Rensis Likert (1961) of the University of Michigan Institute for Social Research, building on earlier findings, described five conditions for leadership behavior: (1) principle of supportive relations, (2)

group methods of supervision, (3) high performance goals, (4) technical knowledge, and (5) coordinating, scheduling, and planning.

These various research programs and writings have a great deal of common conceptual content. It is out of these common concepts that Seashore and Bowers developed the four dimensions which they say comprise the basic structure of leadership. The four dimensions they isolated and conceptualized are:

1. Support. Behavior that enhances someone else's feelings of personal worth and importance.
2. Interaction Facilitation. Behavior that encourages members of the group to develop close, mutually satisfying relationships.
3. Goal Emphasis. Behavior that stimulates an enthusiasm for meeting the group's goals or achieving excellent performance.
4. Work Facilitation. Behavior that helps achieve goal attainment by such activities as scheduling, coordinating, planning, and by providing resources such as tools, materials, and technical knowledge.

Figure 1.6 shows how concepts from the various research programs relate to these four basic concepts of leadership. Each of these four concepts appears in all but two (Katz, et al., 1950; Kahn, 1958) of the previous conceptualizations.

For the purpose of this study and defining these concepts in their broadest sense, support and interaction facilitation can be considered to be similar to the consideration concept of the Ohio studies; and goal emphasis and work facilitation can be considered to correspond to the initiating structure of the Ohio studies. The conceptual linkage of these concepts to satisfaction and the review of the evidence supporting

this linkage will view the concepts of Michigan's Four-Factor Theory and the Ohio studies as being nearly synonymous.

The conceptual link between leadership and satisfaction is that researchers have found that there is a relationship between what an organization's leader does and organizational outcomes or organizational effectiveness. Effectiveness has been assumed to be a unitary characteristic and through this assumption researchers have commonly accepted the idea that leadership is always salutary in its affects and therefore it always enhances effectiveness. Katz and Kahn (1966) stated that leadership can and should be studied as it bears on the achievement of desired outcomes.

In five studies relating consideration to subordinate satisfaction there was a strong positive relation between consideration and satisfaction (Halpin, 1957; Halpin and Winer, 1957; Nealey and Blood, 1968; Yukl, 1969; Anderson, 1966). Likert (1961) reported that aspects of consideration were related to favorable job attitudes. In three laboratory experiments (Day and Hamblin, 1964; Misumi and Shirakashi, 1966; Lowin, et al., 1969) punitive leader behavior (i.e., low consideration) was associated with low subordinate satisfaction. In summary, the literature indicates that considerate leaders will have more satisfied subordinates.

Initiating structure and subordinate satisfaction were found to be related in several studies. Halpin (1957) and Yukl (1969) found positive correlations. Nealey and Blood (1968) found a positive correlation for first-level supervisors. House, et al. (1971) reported

Bowers & Seashore (1964)	Hemphill & Coons (1957)	Halpin & Winer (1957)	Katz et al. (1950)	Katz & Kahn (1951)	Kahn (1958)	Mann (1962)	Likert (1961)	Cartwright & Zander (1960)
Support	Maintenance of Membership Character	Consideration	Employee Orientation	Employee Orientation Closeness of Supervision	Providing Direct Need Satisfaction	Human Relations Skills	Principal of Supportive Relationships	Group Maintenance Functions
Interaction Facilitation	Group Interaction Facilitation Behavior	Sensitivity		Group Relations			Group Method of Supervision	
Goal Emphasis	Objective Attainment Behavior	Production Emphasis	Production Orientation		Structuring Path to Goal Attainment Modifying Employee Goals	Administrative Skills	High Performance Goals	Goal Achievement Functions
Work Facilitation		Initiating Structure		Differentiation of Supervisory Role Closeness of Supervision	Enabling Goal Achievement	Technical Skills	Technical Knowledge, Planning, Scheduling	

Figure 1.6--Correspondence of Leadership Concepts of Different Investigators

Source: David G. Bowers and Stanley E. Seashore, "Predicting Organizational Effectiveness with a Four-Factor Theory of Leadership." *Administrative Science Quarterly*, 1966, Vol. 11, No. 2, pp. 238-263.

similar findings. In a study of engineers, scientists, and technicians, they found significant correlations ($p < .05$) between satisfaction and initiating structure.

Bowers and Seashore (1966) using the four-factor theory studied 40 agencies of one of the leading life insurance companies and found that of 40 satisfaction-leadership correlational coefficients, 30 were significant beyond the five percent level of confidence. They concluded that leadership which contains more support, interaction facilitation, goal emphasis, and work facilitation is associated strongly with greater member satisfaction.

Statement of the Hypothesis

The hypotheses for this study, stated in null form are that there is no relationship between:

1. Organization structure and satisfaction
 - a. complexity and satisfaction
 - b. formalization and satisfaction
 - c. stratification and satisfaction
 - d. centralization and satisfaction
2. Leadership behavior and satisfaction
 - a. leader support and satisfaction
 - b. leader goal emphasis and satisfaction
 - c. leader work facilitation and satisfaction
 - d. leader interaction facilitation and satisfaction
3. The amount of variance in satisfaction accounted for by the structural variables is equal to the amount of variance in satisfaction accounted for by the leadership variables.

The alternative directional hypotheses against which the null will be tested by statistical procedures are:

1. There is a relationship between organizational structure and satisfaction.
 - a. There is a positive relationship between complexity and satisfaction.
 - b. There is a negative relationship between formalization and satisfaction.
 - c. There is a negative relationship between stratification and satisfaction.
 - d. There is a negative relationship between centralization and satisfaction.
2. There is a relationship between leader behavior and satisfaction.
 - a. There is a positive relationship between leader support and satisfaction.
 - b. There is a positive relationship between leader goal emphasis and satisfaction.
 - c. There is a positive relationship between leader work facilitation and satisfaction.
 - d. There is a positive relationship between leader interaction facilitation and satisfaction.
3. The amount of variance accounted for in satisfaction by the structural variables is not equal to the amount of variance accounted for in satisfaction by the leadership variables.

Significance of the Study

This study has significance in that it will illustrate relationships between organizational structure and leadership behaviors to staff satisfaction. Organizational theorists believe that the structure of an organization makes a difference in the outcomes achieved by the organization. The basic premise of these theorists is that if the environment of organizations is held constant, then organizations which have

different structures (different degrees of complexity, formalization, stratification, and centralization) will not be equally effective in achieving outcomes (staff satisfaction) which are important to organizations. The present study may provide confirming evidence that the linkage between organizational structure and organizational outcomes is indeed an important one. Specifically it will determine whether structure and leadership behaviors will optimize satisfaction in school staffs as an outcome in professional organizations. This information will be of value to researchers and school personnel in that it will provide information concerning structure and leadership behaviors that impact on staff satisfaction.

The study has further significance for the theory builder and the practitioner. For the theory builder, relationships which have been found to hold in bureaucratic organizations operating in both the public and private sectors will be tested to find if they can be generalized to professional organizations such as IGE schools. IGE schools seem to be prototypic of professional organizations where a number of different professionals with complementary skills pool their knowledge and expertise; therefore, administrators in IGE schools will benefit from the identification of important relationships among constructs identified as important to the conduct of the schools.

The structure of organizations is one element which is associated with organizational outcomes; however, there are other elements which might help explain these outcomes. One such explanatory element is the behavior of organizational leaders. Since the study simultaneously

measures structure and leader behavior, an assessment of the relative strength of leader behavior in explaining an outcome can be made. This has importance for two reasons: (1) the simultaneous measurement of two classes of variables allows them to be controlled as competing hypotheses, and (2) it can be learned if different classes of variables are more important than others in explaining a specific outcome.

Another unique feature of this study is the use of satisfaction as a construct, in and of itself, rather than having it associated with the construct productivity. It is features such as these that have been presented as giving the study significance which provide a broad empirical base for theory building and which aid better prediction and control of organizational behavior.

Limitations of the Study

There are several important limitations to the study. First, while this study focused on one organizational entity, the IGE elementary school, it must be recognized that elementary schools are only one unit in a larger complex organization, the school system. No attempt was made to determine the impact of the larger system on the unit of study; therefore, the results must be interpreted with some qualification. Second, the perspective of the study is sociological and no attempt was made to take into account any psychological or socio-psychological variables which may also impact on organizational and individual outcomes. Third, the instruments used in the study depended upon the self report of respondents. Self report is not necessarily the same as actual observed behavior due to the possibility that individual respondents perceived

the variables of the instrumentation in different ways. Fourth, and of major importance, was the limitation that the study relied on only one individual's (the principal) perception whether the particular school met the specified criteria required for inclusion in the study. At times, these perceptions were in question as the researchers visited the different schools, but this could not be validated due to lack of time and the fact that no reliable observation procedure was developed prior to visitation. Fifth, the sample of the study was drawn from intermediate unit teachers and principals of IGE schools that had implemented the IPM in the curriculum areas of reading and mathematics and this prohibits the results from being generalized beyond this population. Sixth, this research is a correlational study and does not determine causality, but can only determine the existence of relationships between variables and provide clues for the determination of causality.

Overview of the Study

This chapter presented the nature of the study, the background of IGE, a statement of the problem, the theoretical and conceptual foundation of the four basic theories of the study, a review of related evidence, a statement of the hypotheses, the significance of the study, and the limitations of the study. Chapter II includes a description of the design and methodology used in the study. Chapter III presents the data and describes its analysis. Chapter IV presents a summary of study, findings, conclusions, and implications for future research.

CHAPTER II

DESIGN AND METHODOLOGY

The purpose of this chapter is to delineate the design and methodology of the study. It is composed of five sections which describe: (1) the design of the study, (2) the population and sample selection, (3) the instrumentation of the study, (4) the procedures for data collection, and (5) the statistical techniques used in the data analysis.

Design of the Study

Kerlinger (1973, p. 375) stated that research designs can be categorized as laboratory experiments, field experiments, field studies, and survey research. Festinger and Katz (1964, p. 388) further subdivided field studies into two broad types: exploratory and hypothesis testing. The exploratory type of field study attempts to ascertain "what is" while the hypothesis-testing type endeavors to predict relationships between variables. Given that the purpose of this study is both exploratory and hypothesis testing, a methodology which is designed to explore relationships among classes of variables and the prediction of relationships as hypothesis testing is appropriate.

The data gathered in this study attempted to discover the organizational structure dimensions, the leader behaviors, and the staff outcomes in IGE/MUS-E schools as well as to ascertain the relationships between organizational structure dimensions, leader behaviors, and staff outcomes. The procedures used to analyze the data should be applicable

to a design in which all the observations are made at one point in time and also in which the "independent" constructs are not under the control of the researcher. Campbell and Stanley (1963, p. 64) labeled this a "correlational" design and suggest that correlation analysis is an appropriate statistical technique for analyzing the data. Campbell and Stanley also stated that the reasons for differences between two natural objects are not always interpretable because the design does not control for competing hypotheses; however, they went on to say that "the relatively inexpensive correlational approach can provide a preliminary survey of hypotheses, and those which survive this can be checked through the more expensive experimental manipulation" (p. 69). Therefore, the use of correlational designs represent the first step in theory building because of the two major benefits it provides: (1) it allows researchers to determine the nature of the relationship between constructs in a variety of settings, and (2) it identifies those relationships which appear important and consistent across settings and which might be chosen later to be studied with more powerful designs.

The correlational design is somewhat more powerful for the administrator or manager than for the theory builder; while the theory builder is interested in cause-effect relationships, many times the administrator is only interested in his/her ability to manipulate the level of a construct which he/she cannot directly control by manipulating the level of a construct which he/she is able to control.

The study design, then, has benefits for both the theory builder and the practitioner. For the theory builder, relationships which have

been found to hold in bureaucratic and industrial settings will be tested to find if they can be generalized to IGE schools. Policy makers in IGE schools will benefit from the identification of important relationships among constructs identified as important to the conduct of their schools. Table 2.1 gives a summary of the constructs that are a part of the study.

Population and Sample Selection

The Wisconsin Research and Development Center for Cognitive Learning published a 1973-74 IGE Multiunit School Directory of all elementary schools in the United States that had been organized and staffed according to the multiunit pattern (MUS-E). The use of the 1973-74 School Directory meant that all the 959 schools in the selected sample would have been in IGE for at least two years and many of the schools would have been following this pattern for a longer period of time. Every school is in different circumstances; therefore, no two schools will have utilized the IGE procedures and principles in quite the same manner. It was therefore necessary to develop minimal criteria for participation in the study so that the schools participating would be somewhat comparable. The minimal criteria adopted were those criteria which Wisconsin R & D Center personnel have defined as necessary for a school to be labelled as IGE (Evers, Fruth, Heffernan, Karges, and Krupa, 1975). These criteria were:

1. The entire school is organized in the MUS-E organization pattern with:
 - A. Instructional and Research Units (I & R Units)
Each I & R Unit has:

TABLE 2.1
CONSTRUCTS OF THE STUDY

Independent Variables	Data Gathered From
Structural	
Complexity	principals, unit leaders, unit teachers
Formalization	unit leaders, unit teachers
Stratification	unit leaders, unit teachers
Centralization	unit leaders, unit teachers
Leader Behavior	
Support	unit leaders, unit teachers
Goal Emphasis	unit leaders, unit teachers
Work Facilitation	unit leaders, unit teachers
Interaction Facilitation	unit leaders, unit teachers
Dependent Variable	Data Gathered From
Job Satisfaction	
Administration	unit leaders, unit teachers
Co-workers	principals, unit leaders, unit teachers
Career Future	principals, unit leaders, unit teachers
School Identification	principals, unit leaders, unit teachers
Financial Aspects	principals, unit leaders, unit teachers
Working Conditions	principals, unit leaders, unit teachers
Pupil Relations	principals, unit leaders, unit teachers
Community Relations	principals, unit leaders, unit teachers

- approximately 75 to 150 students of multiages
- approximately 4 to 6 teachers
- one unit leader

The unit leader and teachers of the I & R Unit meet at designated, regular times each week.

B. An Instructional Improvement Committee (IIC)
The IIC is composed of:

- the principal
- the unit leaders from each I & R Unit in the building
- the IMC director

The IIC meets at a designated time each week.

2. If there is more than one IGE school in the district, there is a Systemwide Program Committee (SPC). The SPC is composed of representative teachers, unit leaders, principals, and parents from the IGE schools in the system, plus Board members and central office personnel.

The SPC meets at least once each semester.

Instructional Programming Minimal Criteria

The school applies the Instructional Programming Model (IPM) in at least one curricular area by:

- A. stating schoolwide educational objectives to be attained by the students in the building for the curricular area(s) to which the IPM has been applied.
- B. estimating the range of educational objectives that may be attained by students in each I & R Unit for the curricular area(s) to which the IPM has been applied.
- C. assessing individual student's level of achievement, learning style, and motivation level using criterion-referenced tests observation, or work samples for the curricular area(s) to which the IPM has been applied.
- D. setting instructional objectives for each individual student to attain over a short period of time for the curricular area(s) to which the IPM has been applied.

- E. planning and implementing an instructional program for each individual student for the curricular area(s) to which the IPM has been applied,
- F. assessing students for attainment of the stated instructional objectives for the curricular area(s) to which the IPM has been applied,
- G. if the student has attained the objective(s) to mastery, setting the next instructional objective for the student; if the student has not attained the objective(s) to mastery, reassessing the student, and going through the instructional sequence again or engaging in some other activity (p. A-27).

Further minimal criteria were developed by researchers in the R-3 and Evaluation components in order to assure a certain level of standards.

These additional criteria were:

- 1. The school must have an IIC which meets at least twice monthly.
- 2. The I & R Units must have implemented the IPM in reading for at least two years and in math for at least one year.
- 3. The school had an I & R Unit which met at least once weekly.
- 4. The unit leader of the selected unit must not be new to the unit.
- 5. That no more than one half of the teachers in the selected unit could be new to the unit.
- 6. The I & R Unit staff had to agree to participate.

All intermediate units in the 959 IGE schools which met the developed criteria were the defined population for this study. A stratified random sampling procedure was used to select the schools. A stratification was necessary in order to insure proper representation within the sample; the two strata employed were "city" and "other." "City" was defined as an incorporated urban area having a population

equal to or greater than 200,000 people, according to the 1970 census. "Other" was defined as having a population less than 200,000 people, according the 1970 census. Approximately 20 percent of the schools were located in "city" areas. The two populations were placed in a random order (a computer program APL, 1972 was used to generate the sample) and telephone calls were made to the schools to determine if each school met the established criteria and to obtain their cooperation and agreement to participate. (A copy of the protocol employed in the telephone survey is found in Appendix B). Forty-one schools were selected from this population because the number was sufficient for statistical analysis and was feasible in terms of available resources. Nine of the schools were from the "city" category and thirty-two were from the "other" category. An intermediate unit within each chosen school was selected randomly by the Computer Program IRANDX (Spuck and McIsaac, 1971). A total of 41 principals, 41 unit leaders, and 138 teachers participated in the study. The distribution of the schools, by states, which participated is shown in Table 2.2

TABLE 2.2

GEOGRAPHIC DISTRIBUTION OF PARTICIPATING SCHOOLS

California	3	Ohio	7
Colorado	5	South Carolina	1
Connecticut	2	South Dakota	1
Illinois	2	Texas	5
Nebraska	1	Utah	1
New Jersey	2	Wisconsin	7
New York	1		

Instrumentation

This study hypothesized that organizational structure and leader behavior are related to the staff outcome of job satisfaction. The function of a measure is to translate theoretical constructs into observable indices which can be used for explanation and description. Therefore, the instruments used in this study (see Appendix H) will be discussed in terms of the constructs they purport to measure. The structural dimension consists of complexity, formalization, stratification, and centralization. The leader behavior dimension consists of support, goal emphasis, work facilitation, and interaction facilitation. The job satisfaction dimension consists of administration, co-workers, career future, school identification, financial aspects, working conditions, pupil relations, and community relations. An explanation of the background, development, internal reliability, content and construct validity of each instrument follows.

Structural Dimensions

Organizational structure was defined in terms of Hage's axiomatic theory of organizations. The variables of complexity, formalization, and stratification were operationalized along lines similar to those of Hetzel (1971), Herrick (1972), Walter (1973), and Gramenz (1974), but modified to better suit the circumstances of the present study. The variable centralization was operationalized by Wright (1976) in the Decision Involvement Analysis Questionnaire.

Complexity was operationalized in terms of three indices: (1) the level of educational training represented among the staff in a

school, (2) the involvement by the school staff in professional organizations and activities, and (3) the number of professional specialties which comprise a school. The amount of educational training represented by the school staff in each school was measured by scaling the highest degree plus credits earned beyond that degree for the principal and unit members in the selected school unit. A school mean score was then computed. The scale to be used was as follows:

<u>Highest Level of Professional Preparation Completed</u>	<u>Score</u>
Bachelors Degree	1
Bachelors Degree + 16 credits	2
Masters Degree	3
Masters Degree + 16 credits	4
Masters Degree + 32 credits	5
Doctoral Degree	6

The level of professional involvement was measured by the following items:

1. Indicate the approximate number of presentations or written articles you have done for professional organizations in the past 5 years.
2. Indicate the number of district committees of which you are a member (i.e., Curriculum, SPC, In-service, etc.).
3. Indicate the number of professional organizational meetings you attend each school year.
4. Indicate the number of offices that you hold or have held in the past 5 years in professional organizations.

An average score was computed for each respondent on these items and then a mean score was computed for each school on this index.

The two above indices of educational training and professional involvement were transformed to T scores so that they might be aggregated

to give a measure of professional complexity contained in each school,

The third index of complexity was the number of occupational specialties and the number of persons found in each specialty in an elementary school. This building complexity checklist was completed by the principal as the individual most likely to be aware of all the different specialists in the building. The following specialties appeared in the checklist:

Administrative Staff

Principal
Assistant Principal
Director of Elementary Education
Supervisor (Curriculum and/or Instruction)
Administrative Intern
Other _____

Teaching Staff

Unit or Team Leader
Classroom Teacher
Librarian or IMC Director
Physical Education
Music
Art
Special Education
Physical or Mental Retardation
Teacher Intern
Practice Teacher
Instructional Aide
Other _____

Pupil Personnel Staff

Guidance Counselor
School Psychologist
Social Worker
School Nurse
Speech Therapist
Special Learning Disabilities
Attendance Officer
Remedial Reading
Remedial Math
Other _____

Auxiliary Staff

School Secretary
Instructional or Clerical Aide
Lay Supervisor (Paid)
Lay Volunteer (Unpaid)
Custodian
Cook
Bus Driver
Audio-Visual
Other _____

The building complexity index was tabulated by assigning different weights to the categories of specialties found in a school. These weights were based on a financial consideration, i.e., what each specialty group received on a pay scale within a district. The administrative staff was weighted at a 1.25 level, the teaching staff and pupil personnel staff were weighted on a 1.00 level, and the auxiliary staff was weighted on a .33 level. The weighted scores were then summed and a mean score was then calculated to give a building complexity indicator for each school. This indicator was also transformed to a T score so that it could be aggregated with the professional complexity score to give an overall organizational complexity indicator for each school. The indices of professional complexity and building complexity were used in the study as the final organizational complexity index.

Hage operationalized formalization with indices that measure the proportion of jobs that are codified and the range of variations allowed within job performance. The range of jobs in an elementary school is limited, therefore, for the purposes of measuring formalization in elementary schools, it is necessary to focus on the second indicator of Hage's measure which is the range of variations allowed within job performance. The focus of the items were derived from Walter (1973), Gramenz (1974), and Herrick (1974) and were the extent to which teachers perceived themselves to be restricted in adhering to such rules as may exist in the school. The response format for the index of formalization is a five-point Likert scale consisting of the following range:

- 1 = To a very little extent
- 2 = To a little extent

- 3 = To some extent
- 4 = To a great extent
- 5 = To a very great extent

The scores for each item were summed to determine a formalization score for each respondent. Respondent mean scores were then summed and a school mean score calculated. A high score indicated a highly formal school while a low score was an indication of a school low in formalization. The items contained in the formalization index are the following:

1. To what extent are you guided by written procedures or operational guidelines which specify how to do your job?
2. To what extent do you develop your own methods and procedures in doing your job?
3. To what extent is going through proper channels stressed in your school?
4. To what extent are school work rules and procedures explicitly defined?
5. To what extent are you expected strictly to follow rules and procedures?
6. To what extent are you hindered from doing your job by rules and regulations?
7. To what extent do you feel it is necessary to "work around" certain policies and regulations of the school?

Stratification is one of the most difficult of the structural constructs to operationalize in studying elementary schools. Hage's indicators for stratification are the differences in income and prestige among jobs and the rate of mobility between low- and high-status levels. The hierarchy of an elementary school is relatively flat; therefore, there is very little difference in positions in the organization and there are very few formal rewards which are distributed differentially.

Rather, as Walter (1973, p. 42) stated, "Status and rewards are more often provided in terms of special favors such as appointment to committees or first choice of new equipment," and thereby a status system does develop as a result of implicit and indirect behavior rather than as a result of direct and approved rewards. Therefore, for the purposes of this study, the indicator of stratification was the extent to which staff members felt that other members have greater status, prestige, or are given preferential treatment. The items selected for this indicator were based upon those used by Walter (1973), Herrick (1974), and Gramenz (1974) and therefore reflect the informal "pecking order" status or reward symbols within an elementary school. The items are listed below:

1. To what extent do some teachers in your school get first choice of instructional materials than others?
2. To what extent do some teachers have fewer duties than others?
3. To what extent are some teachers not required to follow the rules and procedures as closely as others?
4. To what extent are some teachers assigned better teaching facilities than others?
5. To what extent do some teachers have more say regarding school policies than others?
6. To what extent do some teachers have more status than others?
7. To what extent do some teachers have a closer relationship with the administration than do others?
8. To what extent are some teachers better able to get what they want into the school budget than others?
9. To what extent are some teachers more readily accepted by their peers than others?
10. To what extent are some teachers allowed to spend more school money than others?

11. To what extent are some teachers respected by students and parents more than are others?
12. To what extent do some teachers have more prestige than others?

The response format for the stratification index was the same as the one used for the formalization index; a five-point Likert scale ranging from 1 = to a very little extent to 5 = to a very great extent. Likewise, respondent scores were summed and a mean score calculated for the school. A high score indicated a highly stratified school whereas a low score indicated a school with very little stratification.

Centralization is the degree to which decision making is concentrated in the organization. It can be concentrated high in the organization or it can be spread throughout the organization thereby reaching the lower levels. Measures of centralization are the proportion of jobs that participate in decision making and the number of areas in which decisions are made. Centralization, in this study was measured with the Decision Involvement Analysis Instrument developed by Wright (1976). This instrument was selected because it enables the measurement of the elementary school's real decision structure; the individual or group perceived as presently responsible for making the final decision on potent decisions. Potent decisions are those decisions which deal with the major tasks and functions in schools. Therefore, it is possible to measure where in the organization important decisions are being made by how many people participated in the decision. The more people (i.e., proportion of jobs) making decisions in the greater number of areas, then the more decentralized the organization. The following are the 13

categories or groups making up the decision structures contained in the instrument (Wright, 1976, pp. 28-29):

1. Board of Education
2. Superintendent of other Central Office Personnel
3. Negotiation Teams
4. Systemwide Program Committee
5. Principal or Assistant Principal
6. Entire Faculty as a Group
7. Instructional Improvement Committee
8. Unit Leader
9. Unit Teachers as a Group
10. Individual Teacher
11. Paraprofessionals
12. Parents of Parent Advisory Committee
13. Student

The items representing the potent decisions were divided into three scales: (1) Extra School, (2) School-Wide, (3) Unit Wide. These scales were developed with a factor analysis computer program called PROGRAM BIGFACT (Spuck and McIsaac, 1971). The scales and their items are as follows:

Scale I (Extra School)

The procedures to be utilized in evaluating a principal's performance.

The procedures to be utilized in evaluating a teacher's performance.

The criteria to be utilized in evaluating preservice and inservice programs.

The nature and extent of consultant help from outside the school.

The transfer of teachers from one I & R Unit to another I & R Unit within the school,

The topics for the inservice program,

The amount and nature of supervision of teaching methods.
 The budget of the school.
 The extent of involvement of parent advisory groups in the programs of the school.

Scale II (School-Wide)

The approval of instructional materials to be purchased.
 The coordination of curriculum across units within a school.
 The amount of planning time provided unit teachers for unit-related activities.
 The procedures to be utilized in evaluating instructional materials within the school.
 The criteria to be utilized in evaluating instructional programs within the school.
 The number and nature of parent-teacher conferences.

Scale III (Unit-Wide)

The groupings to be utilized for instruction (one-to-one, small group, etc.).
 The design and content of the curriculum within a unit.
 The area(s) in which unit teachers should specialize.
 The specific instructional objectives each child is to attain.

Respondent scores were determined by creating a matrix for each of the 13 decision structures and calculating the percentage of the respondents who responded in each cell of the matrix for each of the three scales. Therefore, for each school the percentage of respondents at each level was determined and then these were summed for each scale. This can be seen in the following equation:

$$\frac{\text{count in 13 cells multiplied by number in each cell}}{\text{count of number of persons in each cell}}$$

The above equation enabled the establishment of a level of centralization for each school. A low number or score represented a high level of centralization within the score and a high number or score represented a low level of centralization or decentralization within the school.

Leader Behavior Dimensions

The new multiunit form of school organization in IGE was designed to give new depth and range to the position of the principal in the school and also create the new pivotal position of the unit leader. In the IGE school the responsibilities of the principal are changed substantially from those of a traditional school principal. The principal assumes greater and more direct responsibility for the improvement of instruction thereby altering the number and nature of activities for which he/she is to provide leadership (Lipham and Fruth, 1976). The new position of unit leader creates responsibilities at two levels of the multiunit organization: (1) as a member of the I & R Unit, and (2) as a member of the IIC. These responsibilities are related to three broad areas: (1) membership in the IIC, (2) leadership of the I & R Unit, and (3) teaching. It can be seen in these responsibilities that unit leaders have expanded professional duties and because this is a leadership position, the unit leader must be willing and able to assume leadership responsibilities. With regard to leadership, it can be seen that the multiunit organizational structure not only affixes positional leadership responsibilities, but also fosters emergent leadership behavior in these positions because of the expanded responsibilities. It was with this in mind that the indices for the measurement of leadership were chosen.

Leadership behavior is measured in the present study by the "Survey of Organizations" instrument developed by the Center for Research on Utilization of Scientific Knowledge/Institutes for Social Research/The University of Michigan Organizational Development Research Program, Ann Arbor, Michigan. The primary variables covered what was felt to be the basic elements in organizational behavior as determined by studies done at ISR as described in the writings of Rensis Likert. The scales that were of primary interest for the present study were those measuring leadership. The leadership measures were developed originally by Bowers and Seashore (1966) and were the result of an integrative effort attempting to bring together much of the work done at Ohio State University and the University of Michigan. It is their view that leadership is more a behavior or functional form than an attribute of office, therefore, they defined leadership as organizationally useful behavior by one member of an organizational family toward another member or members of that same organization. Defined in this manner, leadership amounts to an aggregation of separate behaviors. A factor analysis using the Guttman-Lingoes Smallest Space Analysis was used to determine the independence of the four factors of leadership. Permission to use these scales was obtained from Dr. David G. Bowers in August, 1975. The scales along with each of the items are as follows:

Leadership

"To what extent is (does) your unit leader or principal"

Scale I - Support

1. ...friendly and easy to approach?
2. ...attentive to what you say?
3. ...willing to listen to your problems?

Scale II - Goal Emphasis

1. ...encourage people to give their best effort?
2. ...maintain high standards of performance?
3. ...show you how to improve your performance?

Scale III - Work Facilitation

1. ...provide the help you need so that you can schedule work ahead of time?
2. ...offer new ideas for solving job-related problems?

Scale IV - Interaction Facilitation

1. ...encourage the persons who work with him/her to work as a team?
2. ...encourage people who work with him/her to exchange opinions and ideas?

It will be noted that the same indices are used with the principal and the unit leader. The reason is that the leadership behavior of a person who occupies a formal, designated leadership position is being measured and Seashore and Bowers (1966) provide convincing evidence that a manager's characteristics of leadership will be mirrored by subordinates in leadership positions. In other words, they stated that the best predictor of subordinate leadership characteristics is its managerial opposite number. They presented 16 coefficients that are statistically significant indicating a significant and strong relationship between managerial and subordinate leadership characteristics. Table 2.3 presents a summary of the inter-correlation of managerial and subordinate leadership characteristics. All of the coefficients are significant beyond the 0.05 level of confidence with a 2-tail test (Bowers and Seashore, 1966).

The response format for the indices of leadership is a five-point Likert scale with 1 = to a very little extent and 5 = to a very

great extent. Scores were derived for the leadership of the principal by summing the responses on each item within a scale and then determining a mean score for each scale. Each scale score was then summed for each respondent giving a total score on leadership for that respondent. All the respondent scores were then aggregated so that each school had an aggregated score on each scale as well as a total leadership score. A high score reflected a school wherein the principal's leadership was high in all four dimensions and a low score indicated a principal who was low on all four dimensions. The unit leader's leadership was determined in the same manner, so that each school had scores reflecting the leadership of the unit leader as well as the leadership of the principal.

TABLE 2.3

INTERCORRELATION OF MANAGERIAL AND SUBORDINATE
LEADERSHIP CHARACTERISTICS

Managerial Variables	Subordinate Variables			
	Support	Goal Emphasis	Work Facilitation	Interaction Facilitation
Support	0.59	0.67	0.52	0.58
Goal Emphasis	0.54	0.65	0.72	0.59
Work Facilitation	0.49	0.63	0.82	0.66
Interaction Facilitation	0.55	0.71	0.62	0.74

Source: Bowers, David G. and Seashore, Stanley E. "Predicting Organizational Effectiveness with a Four-Factor Theory of Leadership," in W. E. Scott and L. L. Cummings (Eds.), Organizational Behavior and Human Performance. Homewood, Illinois: Richard D. Irwin, Inc., 1973, p. 451.

Job Satisfaction Dimensions

Evans (1969), Locke (1969), and Schwab and Cummings (1970) provided evidence that there is a serious lack of adequate theory about the meaning of job satisfaction. The reason for this appears to be the tendency on the part of investigators to construct job satisfaction measures without careful attention to what theory of satisfaction might be implied by their measure. It seems that many of the operational definitions of job satisfaction, in fact, imply different meanings of what it is to be satisfied. Wanous and Lawler (1972) reviewed nine different operational definitions of job satisfaction. These nine different definitions can be presented in equation form and are as follows:

1. $JS = \frac{\text{facets}}{\Sigma (JFS)}$
2. $JS = \frac{\text{facets}}{\Sigma (\text{Importance} \times JFS)}$
3. $JS = \frac{\text{facets}}{\Sigma (\text{Is Now})}$
4. $JS = \frac{\text{facets}}{\Sigma (\text{Importance} \times \text{Is Now})}$
5. $JS = \frac{\text{facets}}{\Sigma (\text{Should Be} - \text{Is Now})}$
6. $JS = \frac{\text{facets}}{\Sigma [\text{Importance} \times (\text{Should Be} - \text{Is Now})]}$
7. $JS = \frac{\text{facets}}{\Sigma (\text{Would Like} - \text{Is Now})}$
8. $JS = \frac{\text{facets}}{\Sigma [\text{Importance} \times (\text{Would Like} - \text{Is Now})]}$
9. $JS = \frac{\text{facets}}{\Sigma (\text{Importance} - \text{Is Now})}$

Through this review and their own empirical work Wanous and Lawler (1972, p. 103) concluded that the evidence from convergent and discriminant validity tests strongly suggests that it is possible to validly measure people's satisfaction with different facets of their jobs. They further concluded that there is no one best way to measure satisfaction but evidence points to the fact that the elegant combinations do not appear to be better predictors of overall satisfaction than the simple summation of the job facets. This position has been supported by several other researchers (Evans, 1969; Hulin, Smith, Kendall, and Locke, 1963; Kendall, Smith, Hulin, and Locke, 1963; Locke, Smith, Hulin, and Kendall, 1963; Macaulay, Smith, Locke, Kendall, and Hulin, 1963; Smith, 1963; Smith and Kendall, 1963; Ewen, 1967; Brayfield and Rothe, 1951; Kunin, 1955; Schaffer, 1953). In summary, the evidence provided in the literature is that overall job satisfaction can be viewed as a function of the sum of job facet satisfaction ($JS = \sum \text{facets (JFS)}$). Job-facet satisfaction refers to how satisfied a person is with that aspect of the job, in other words, how satisfied the person is with his/her present level of attainment.

The best known measurement of satisfaction using this approach is of the type such as that used in the Cornell Job Descriptive Index, the JDI. The JDI was normed on blue-collar workers, so Smith and Dunham extended this work and developed The Index of Organizational Reactions (IOR) to be used with white-collar or professional workers. The measure of satisfaction used in this present study is based on the scales developed by Smith and Dunham with the specific items developed by the R-3

Component of the R & D Center. Smith and Dunham (1976, p. 3) noted that the foundation of any empirical study of job satisfaction is the instrument used to determine the effective responses to the job. Smith, Kendall, and Hulin (1969) developed basic guidelines for the development of a good measure of job satisfaction: (1) separate the various aspects of satisfaction from one another, (2) agree with other, equivalent measures, (3) be useful with a wide range of persons from a wide range of jobs and a variety of situations, (4) be intuitively understandable, (5) be short, (6) allow group administrations, and (7) require low expenditures of time and money. The Index of Organizational Reactions (IOR) meets these criteria and has also gone through a two-phase validity study. In Phase I, the factor analytic structure of the IOR scales was examined across several samples and over time. In Phase II, the IOR was placed into a multitrait-multimethod matrix (Campbell and Fiske, 1959) with a set of "Faces Scales" (Kunin, 1955; Dunham and Herman, 1975), the Job Descriptive Index (JDI) (Smith, et al., 1969), and the Minnesota Satisfaction Questionnaire (MSQ) (Weiss, Davis, England, and Lofquist, 1967) to investigate convergent and discriminant validities. The factor analyses have shown that the various facets of satisfaction can be clearly distinguished from one another.

In summary, it appears that the IOR method provides a means of measuring multiple facets of job satisfaction which is useful across many types of subjects and jobs and over time. This method is simple, inexpensive, requires a minimum of language skills, and compares very favorably with other methods of measuring job satisfaction. The IOR scales, plus two scales developed as related to satisfaction in schools

specifically as evidenced by Chase (1951) and the specific items developed by the R-3 Component of the R & D Center are as follows:

Scale 1 - Administrative (supervision)

How satisfied are you with:

1. the professional competence and leadership of your building administrators?
2. the ability of your building administrators to encourage people to work together?
3. the manner in which school policies and regulations are enforced?
4. the recognition you receive from your building administrators for your teaching achievements?
5. the procedures used to evaluate teachers in your school?
6. the fairness of the building administration in the assigning of extra duties?
7. the opportunities provided to discuss problems with building administrative personnel?
8. the trust you have in your building administrators?
9. the administrators' trust in you?
10. the innovativeness of your building administrators?

Scale 2 - Co-Workers

1. the personal and social relationships you have with other teachers?
2. the recognition you get from other teachers for your work?
3. the quality of work of other teachers in your school?
4. the amount of work done by other teachers in your school?

Scale 3 - Career Future

1. teaching, in light of what you expected to be doing as a teacher?
2. your future in your school district?
3. your opportunities for growth in your profession?

Scale 4 - School Identification (company identification)

1. your school as an organization to work for?
2. the professionalism your school district shows toward teachers?
3. the degree of your involvement in your school?
4. the general reputation of your school?
5. the opportunities that you have to influence school policy?
6. your awareness of what is "going on" in your school?
7. the goals emphasized by your school?

Scale 5 - Financial Aspects

1. the amount of money you make?
2. the salary schedule and fringe benefits in your school district?

Scale 6 - Working Conditions

1. the physical facilities of your school?
2. the number of students accommodated in your school?
3. the availability of appropriate instructional materials and equipment?
4. the arrangement of space and equipment in your school?
5. the amount of preparation time provided for teachers in your school?
6. the custodial services provided in your school?

7. the quality of the work you do?
8. the extent to which you are motivated by your job?
9. the freedom that you have to experiment with instructional methods?
10. the intellectual stimulation that you received from your work?
11. the opportunities that you have to teach in your major areas of interest?
12. the amount of work you are expected to do?
13. the amount of time that you actually spend in teaching?

Scale 7 - Pupil Relations

1. the total time that you spend with students?
2. the number of students for whom you are responsible?
3. the extent to which you are able to meet your students' academic needs?
4. the extent to which you are able to meet your students' affective needs?
5. the quality of your interactions with your students?

Scale 8 - Community Relations

1. the extent to which the community recognizes and appreciates its educators?
2. the adequacy of financial support provided your school by the community?
3. the understanding of your school's program by parents and the community?
4. the community's involvement in your school's program?
5. the methods used to communicate with the community about your school?

6. the methods used to report student progress to parents?

The response format is a five-point Likert scale consisting of the range 1 = to a very little extent and 5 = to a very great extent. The scales were summed for each respondent and then aggregated to provide an overall satisfaction score. Respondent scores for each school were then aggregated to provide an overall school score for each scale and the total satisfaction score. A high school score represents a high level of satisfaction on various aspects of the job for a school and a low score represents a low level of satisfaction.

Measurement Reliability and Validity

A measure is reliable to the extent that measurement error is limited; the lower the error, the greater the reliability (Kerlinger, 1965, p. 434). The particular type of measurement error of greatest concern to this study was that error due to variations within the same test interest, i.e., internal consistency. Estimates of internal consistency are primarily concerned with errors in the sample of instrument items and provide an indication of how accurately the instrument involved represents the domain of interest (Nunnally, 1967, pp. 210-211). Coefficient alpha (Nunnally, 1967, p. 196) was the specific method used for the purposes of this study. Alpha is a derivative of the parallel tests model and represents the expected correlation of one K-item with all other K-item tests drawn from the same domain. Alpha is expressed in the following equation:

$$r_{KK} = \frac{K}{K-1} \frac{\sigma_y^2 - \sum \sigma_i^2}{\sigma_y^2}$$

where,

K = the number of items in a scale or test

$\sum \sigma_i^2$ = the sum of the standard deviations of the items

σ_y^2 = the standard deviation of the scale or test

Alpha was computed with the use of the computer program TSTAT (Spuck, 1971) for formalization, stratification, and job satisfaction and the following coefficients found are presented in Table 2.4.

TABLE 2.4
RELIABILITY COEFFICIENTS FOR FORMALIZATION,
STRATIFICATION, AND JOB SATISFACTION

Complexity	Not applicable as data is objective	
Formalization	N = 178	.7664
Stratification	N = 178	.8819
Job Satisfaction:	N = 219	
Scale 1 - Administration		.9499
Scale 2 - Co-Workers		.8634
Scale 3 - Career Future		.7982
Scale 4 - School Identification		.8820
Scale 5 - Financial Aspects		.9309
Scale 6 - Working Conditions		.8809
Scale 7 - Pupil Relations		.7949
Scale 8 - Community Relations		.8496
TOTAL		.9485

Spuck (1971) indicated that alpha coefficients below .50 are of questionable reliability, whereas those between .50 and .70 are satisfactory for early stages of research, and those above .70 possess high degrees of internal consistency. These coefficients indicate a substantial degree of measurement accuracy.

The determination of reliability of the Decision Involvement Analysis Instrument (the measure of centralization) was conducted by Wright (1976) also using the computer program PROGRAM TSTAT (Spuck, 1971). The reliability of three versions of the instrument were established and are presented in Table 2.5. Version III of the DIA was utilized in the present study.

TABLE 2.5
RELIABILITY SCORES FOR SCALES AND TOTAL INSTRUMENT
DECISION INVOLVEMENT ANALYSIS INSTRUMENT
N=1266

Scale	Version I	Version II	Version III
1 Extra-School	.8032	.7822	.7659
2 School-Wide	.7812	.6892	.6892
3 Unit Wide	.7888	.7415	.7415
TOTAL	.8954	.8560	.8478

The determination of reliability of the leader behavior scales in the Survey of Organizations Instrument was conducted by Bowers and

Seashore (1966). Measures of internal consistency were calculated using Cronbach's Alpha α and Spearman-Brown internal consistency reliability coefficients were also calculated. These are presented in Table 2.6.

TABLE 2.6
RELIABILITY SCORES FOR LEADER BEHAVIOR SCALES.
SURVEY OF ORGANIZATIONS INSTRUMENT
N=1048

Scale	Cronbach Alpha	Spearman-Brown
1 Support	.94	.91
2 Goal Emphasis	.85	.88
3 Work Facilitation	.88	.87
4 Interaction Facilitation	.89	.85

The reliability coefficients for all the instrumentation utilized in the present study indicate substantial degrees of measurement accuracy.

Reliability is an essential component of test validity but it cannot be substituted for it. Reliability indicates the accuracy of a measure, whereas, validity deals with to what degree a given measure is capable of achieving specific aims (Kaplan, 1964, p. 198). This study's specific concern was with the question of construct validity. That is, determining the degree to which certain explanatory constructs may account for the performance on a given measure (American Psychological Association, 1966, p. 13).

There are three aspects to the process of developing and validating the measurement of constructs (Nunnally, 1967, p. 87). These processes are: (1) The domain of the observable for the construct must be specified. This involves conceptually outlining the domain of interest and operationally defining variables and their interrelationships. This was accomplished for the present study in Chapter I. (2) One must determine the extent to which all, some, or none of the observables used to define the construct are interrelated. This means assessing the degree of internal consistency of the measure. This was determined in this study by the use of coefficient alpha and all the instruments utilized indicated a substantial degree of measurement accuracy. (3) Once a construct has been adequately defined and its internal consistency demonstrated, it must be determined to what extent the constructs behave as expected, or as predicted by the underlying theory. This is the essential part of any study and is the primary objective for using statistical techniques in the analysis of the data. If the hypothesized relationships do not occur then it is necessary to conclude that either the measures are not valid or that the underlying theory relating the variables is questionable.

Collection of Data

The schools that met the criteria and agreed to participate in the study were sent information (Appendix C). Further information was sent to the principal and provided a background of this study and of the companion studies being done with the same population (Bocian, 1976; Feldman, 1976; Rossmiller and Geske, 1976; Sigurdson, 1976), a

description of the instruments, research procedures, and the purpose of the research (Appendix D). This information was followed by Procedural Details (Appendix E) explaining what was required of the school before and during the on-site visitation. This letter also requested student information needed by Bocian, Sigurdson, and Feldman to enable the researchers to randomize the students in the unit into three groups and to permit the researchers to place student data on the test response sheet before the school visitation. The research procedures that would be used when the researchers arrived at the school to collect the data were also explained. Staff instrumentation was sent to the schools approximately one month before the on-site visit so it could be completed by the staff by the day of the visit. Four researchers from the Wisconsin R & D Center (Bocian, Feldman, Mendenhall, and Sigurdson) visited the 41 schools during January and February, 1976. On the day of the on-site visitation, the researcher met with the principal, the I & R Unit staff, collected the completed respondent instruments, and finalized plans for the student testing procedures (Appendix F). The researcher then directed and administered the student tests.

Participants in the study were assured of the confidentiality of individual staff and student responses. Names of the schools and participants would not be published and would remain confidential as part of the data base for the R-3 project.

Data Analysis

The hypotheses described in this study were tested by the determination of the Pearson Product Moment Coefficients of Correlation.

This analysis was calculated by the use of PROGRAM WISE*STAT.DISTX (Spuck, Stofflet, and Fleckenstein, 1971), a computer program developed and available at the University of Wisconsin-Madison. This program provided a procedure and an index for testing the strength of the correlation between the variables in each of the hypotheses.

A multivariate approach was employed in order to specifically determine the relationship of the indicators of the independent variables to the various indicators of the dependent variable. A stepwise multiple regression procedure was utilized to determine the relative contribution of each independent variable in explaining the dependent variable. The specific analysis was conducted through the use of STATJOB.STEPREG1 (Allen, 1973), a computer program available at the University of Wisconsin-Madison. There are two approaches to stepwise selection procedures: "forward" and "backward." For the purposes of this study, the procedure used was the "forward" method. The program was processed on the Univac 1108 Computer at the Madison Academic Computing Center (MACC) at the University of Wisconsin. The probability level for all tests of statistical significance was set at .05.

CHAPTER III

ANALYSIS OF THE DATA

This chapter contains three sections. The first section describes the procedures used in aggregating the data and includes a discussion of the scoring, coding, and transforming of the data. The second section presents the results of the correlations used to test the hypothesized relationships of organizational structure and leader behavior to staff job satisfaction. The final section presents the results of the multiple regression analysis employed to further test the major hypotheses.

Data Processing Procedures

It was necessary that a series of data processing procedures be performed before the responses from the staff instruments could be analyzed statistically. Figure 3.1 illustrates the procedures used to process the data. First, all the instrumentation was examined for spurious markings and missing data were designated by either a zero or the symbol "b" for blank, whichever was more appropriate for the specific circumstances or instrument. This was done to aid in the keypunching. Second, each of the instruments was assigned a school number, study number, instrument number, respondent number, card number, and staff number. Third, the item responses of the instruments were keypunched on computer cards. Fourth, all of the raw data on the computer cards were transferred to image arrays and assigned a file on the 1108 Computer at the Madison Academic Computer Center (MACC). This was done to facilitate access when compositing the data. Fifth, Program TSTAT

(Spuck, Stofflet, and Fleckenstein, 1971), was employed to determine the internal reliability of those instruments not demonstrated by previous research. Sixth, several specialized computer programs were developed by Professor Donald N. McIsaac (1976) and used to transform and aggregate the raw data into composite school scores (Appendix G).

The final step of the data processing procedure was sorting of the school means for each of the instruments used in the study. A sort procedure, Program BIGSORT (McIsaac, 1976) was used to produce a data file. The data file, BIGDATAMAT, consists of school scores on each instrument by schools. BIGDATAMAT was the data file used in the analysis of the data. The data matrix used in this study consists of structural and leader behavior measures -- the independent variables which together had 19 scores; and the dependent variable of staff job satisfaction which had nine scores. The variables used in this study are as follows:

1. Professional Complexity - Structure - School Score
2. Building Complexity - Structure - School Score
3. Organizational Complexity - Structure - School Score
4. Formalization - Structure - School Score
5. Stratification - Structure - School Score
6. DIA Extra School Scale - Centralization - School Score
7. DIA School Wide Scale - Centralization - School Score
8. DIA Unit Wide Scale - Centralization - School Score
9. DIA Total Score - Centralization - School Score
10. Principal Support - Leader Behavior - School Score
11. Principal Goal Emphasis - Leader Behavior - School Score
12. Principal Work Facilitation - Leader Behavior - School Score
13. Principal Interaction Facilitation - Leader Behavior - School Score
14. Total Principal Leadership - Leader Behavior - School Score
15. Unit Leader Support - Leader Behavior - School Score
16. Unit Leader Goal Emphasis - Leader Behavior - School Score
17. Unit Leader Work Facilitation - Leader Behavior - School Score

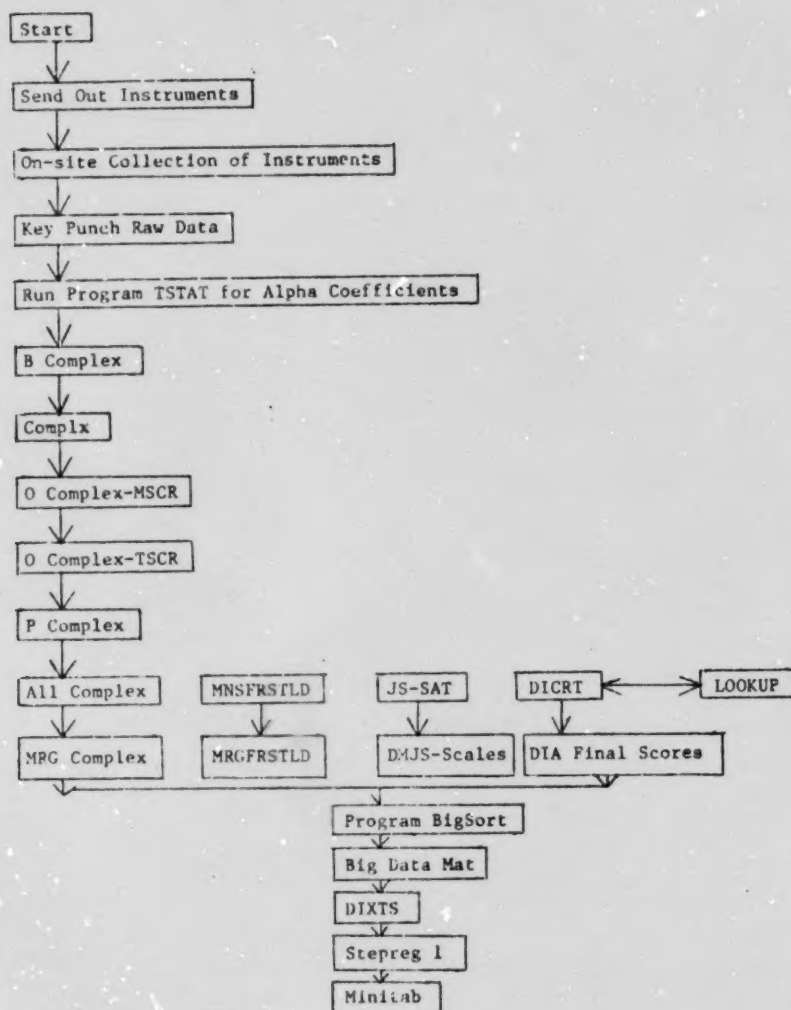


Figure 3.1 -- Data Processing Procedures

18. Unit Leader Interaction Facilitation - Leader Behavior - School Score
19. Total Unit Leader Leadership - Leader Behavior - School Score
20. Scale 1 Administration - Job Satisfaction - School Score
21. Scale 2 Co-Workers - Job Satisfaction - School Score
22. Scale 3 Career Future - Job Satisfaction - School Score
23. Scale 4 School Identification - Job Satisfaction - School score
24. Scale 5 Financial Aspects - Job Satisfaction - School Score
25. Scale 6 Working Conditions - Job Satisfaction - School Score
26. Scale 7 Pupil Relations - Job Satisfaction - School Score
27. Scale 8 Community Relations - Job Satisfaction - School Score
28. Total Job Satisfaction - Job Satisfaction - School Score

Correlation Tests of the Hypotheses

The purpose of this study was to analyze the relationship of organizational structure and leader behavior as it relates to staff job satisfaction. To accomplish this, the hypotheses as stated in Chapter 1 were tested:

Null Hypotheses:

1. There is no relationship between organizational structure and job satisfaction.
 - a. complexity and job satisfaction
 - b. formalization and job satisfaction
 - c. stratification and job satisfaction
 - d. centralization and job satisfaction
2. There is no relationship between leader behavior and job satisfaction.
 - a. leader support and job satisfaction
 - b. leader goal emphasis and job satisfaction
 - c. leader work facilitation and job satisfaction
 - d. leader interaction facilitation and job satisfaction
3. The amount of variance in job satisfaction accounted for by the structural variables is equal to the amount of variance in job satisfaction accounted for by the leadership variables.

Alternative Hypotheses

1. There is a relationship between organizational structure and job satisfaction.
 - a. There is a positive relationship between complexity and job satisfaction
 - b. There is a negative relationship between formalization and job satisfaction
 - c. There is a negative relationship between stratification and job satisfaction
 - d. There is a negative relationship between centralization and job satisfaction
2. There is a relationship between leader behavior and job satisfaction.
 - a. There is a positive relationship between leader support and job satisfaction
 - b. There is a positive relationship between leader goal emphasis and job satisfaction
 - c. There is a positive relationship between leader work facilitation and job satisfaction
 - d. There is a positive relationship between leader interaction facilitation and job satisfaction
3. The amount of variance accounted for in job satisfaction by the structural variables is not equal to the amount of variance accounted for in job satisfaction by the leadership variables.

Descriptive statistics for the sample distribution of the independent and dependent variables are presented in Tables 3.1, 3.2, and 3.3. They include the mean standard deviation, skew, probability of skew, kurtosis, and probability of kurtosis for each independent and dependent variable.

Hayes (1973) refers to skewness as the extent to which the frequency distribution of a group of scores is asymmetrical; that is, one "tail" of the distribution is longer than the other. The effect of such a tail is to pull the mean away from the median. The median is the middle score of the distribution. Thus, in a perfectly symmetrical

Table 3.1

Descriptive Statistics for Independent Variables of Organizational Structure

Variable	Mean	Standard Deviation	Skewness	Probability of Skewness	Kurtosis	Probability of Kurtosis
Professional Complexity	50.0000	5.1967	.7220	.5225	.8764	.6151
Building Complexity	49.9993	10.0008	1.8444	.0619	1.0097	.3138
Organizational Complexity	49.9998	5.6463	1.8561	.0603	.6128	.5475
Formalization	2.5827	.4203	.5501	.5893	-1.3075	.1881
Stratification	2.2844	.6046	1.1511	.2482	- .0386	.9681
Centralization I A Extra School	4.6237	.9852	.9864	.6749	.2239	.8177
Centralization I A School Wide	5.3541	1.3447	- .2686	.7847	.3592	.7204
Centralization I A Unit Wide	7.9415	1.4172	-8.1507	.0000	17.1413	.0000
Total Centralization I A Question One	5.6083	.8389	2.4462	.0139	1.0998	.2710

Table 3.2

Descriptive Statistics for Independent Variable of Leader Behavior

Variable	Mean	Standard Deviation	Skewness	Probability of Skewness	Kurtosis	Probability of Kurtosis
Principal Support	4.0678	.6714	- 1.1792	.2367	- .7333	.5295
Principal Goal Emphasis	3.6678	.6275	- .3982	.6933	- .4249	.6748
Principal Work Facilitation	3.4259	.7177	- .1974	.8379	- .0752	.9381
Principal Interaction Facilitation	3.9827	.6292	- .5957	.5588	- 1.4876	.1331
Total Principal Leadership	3.8020	.5873	- .4462	.6602	- .8766	.6152
Unit Leader Support	4.3237	.6062	- 3.2441	.0016	2.6805	.0075
Unit Leader Goal Emphases	3.6956	.7303	- 1.7162	.0825	1.0570	.2908
Unit Leader Work Facilitation	3.5698	.8013	- 1.8969	.0549	1.3405	.1769
Unit Leader Interaction Facilitation	4.0393	.7557	- 3.2689	.0015	2.7419	.0663
Total Unit Leader Leadership	3.9271	.6596	- 3.1064	.0024	3.0959	.0024

Table 3.3

Descriptive Statistics for Dependent Variable of Job Satisfaction

Variable	Mean	Standard Deviation	Skewness	Probability of Skewness	Kurtosis	Probability of Kurtosis
Satisfaction with Administration	3.5800	.6692	- .1496	.8758	- .9835	.6734
Satisfaction with Co-Workers	3.0366	.3586	- 1.4901	.1324	.5571	.5846
Satisfaction with Career Future	3.6310	.4872	- 1.0970	.2722	.7119	.5162
Satisfaction with School Identifica- tion	3.5093	.4434	- 1.4935	.1315	.2940	.7664
Satisfaction with Financial Aspects	3.2485	.5506	.4549	.6542	1.7603	.0748
Satisfaction with Working Conditions	3.5063	.3968	- .7256	.5247	- .4617	.6495
Satisfaction with Pupil Relations	3.1973	.3809	- .1945	.8401	- .8620	.6068
Satisfaction with Community Relations	2.3015	.4282	.9481	.6547	- .2150	.8244
Total Satisfaction	3.4324	.3812	- .9008	.6288	- .2611	.7901

distribution, the measure of skewness is 0. A long "tail" on the right side of the distribution (mean > median) indicates that there is a positively skewed distribution which has scores that extend further above the mean than scores extend below it. A long "tail" on the left side of the distribution will have negative skewness and the reverse is true for the scores. Kurtosis reflects the degree of "peakedness" or "flatness" of the distribution. A normal distribution will have kurtosis of zero and is said to be mesokurtic. A leptokurtic (peaked) distribution will have a positive kurtosis; a platykurtic (flat) distribution will have a negative kurtosis. In the WISE*STAT.DISTX computer program (Spuck, et al., 1971), the normal curve is represented as having a kurtosis statistic of 0, the leptokurtic curve as a statistic greater than 0, and the platykurtic curve has a statistic less than 0. The probability associated with a sample distribution's skew and kurtosis indicates the likelihood that the skew and kurtosis exhibited by the data would occur by chance. The coefficients of skewness in Table 3.1 revealed that seven of the independent variables of organizational structure had a positive skew and two of them had a negative skew. The kurtosis coefficients of the structural variables tended to be positive, indicating a leptokurtic curve. In Table 3.2, the coefficients of skewness for the independent variables of leader behavior revealed that all ten of the variables had a negative skew, and that the kurtosis coefficients had an even split with five being negative and five being positive. Since the five positive kurtosis coefficients were larger, the curve would tend to be very slightly leptokurtic, as

Table 3.4
Correlations of the Independent Variables of Organization Structure

VARIABLE	1	2	3	4	5	6	7	8	9
1. Professional Complexity	1.000								
2. Building Complexity	.005	1.000							
3. Organizational Complexity	.465*	.888*	1.000						
4. Formalization	.048	.075	.088	1.000					
5. Stratification	-.056	.090	.054	.694*	1.000				
6. Centralization DIA (Extra-school)	-.256	.122	-.010	.179	.248	1.000			
7. Centralization DIA (School-wide)	-.297	.117	-.033	-.188	-.070	.396*	1.00		
8. Centralization DIA (Unit-wide)	.074	-.066	-.025	-.339*	-.276	-.160	-.095	1.00	
9. Total Centralization DIA Question One	-.306*	.102	-.050	-.056	.086	.798*	.835*	-.090	1.00

*Significant at the .05 or higher level

Table 3.5

Correlations of the Independent Variables of Leader Behavior

VARIABLE	1	2	3	4	5	6	7	8	9	10
1. Principal Support	1.000									
2. Principal Goal Emphasis	.630*	1.000								
3. Principal Work Facilitation	.732*	.894*	1.000							
4. Principal Interaction Facilitation	.710*	.675*	.710*	1.000						
5. Total Principal Leadership	.876*	.900*	.935*	.843*	1.000					
6. Unit Leader Support	.073	.088	.164	.395*	.179	1.000				
7. Unit Leader Goal Emphasis	-.056	.194	.164	.390*	.168	.767*	1.000			
8. Unit Leader Work Facilitation	.103	.031	.105	.270	.060	.694*	.847*	1.000		
9. Unit Leader Interaction Facilitation	.127	.168	.208	.503*	.257	.880*	.879*	.787*	1.000	
10. Total Unit Leader Leadership	.006	.135	.174	.420*	.179	.900*	.951*	.895*	.955*	1.000

*Significant at the .05 or higher level

Table 3.6

Correlation of Independent Variables of Organization Structure and Leader Behavior

VARIABLE	PROFESSIONAL COMPLEXITY	BUILDING COMPLEXITY	ORGANIZATIONAL COMPLEXITY	FORMALIZA- TION	STRATIFI- CATION	CENTRALI- ZATION	CENTRALIZA- TION DIA SCHOOL WIDE	CENTRALIZA- TION DIA UNIT WIDE	TOTAL CENTRAL- IZATION DIA QUESTION ONE
1. Principal Support	-.045	-.285	-.274	-.589*	-.390*	-.122	.003	.360*	-.006
2. Principal Goal Emphasis	-.016	-.085	-.083	-.182	-.272	-.021	-.152	.113	-.101
3. Principal Work Facilitation	-.048	-.277	-.267	-.303*	-.336*	-.084	-.166	.111	-.153
4. Principal Interaction Facilitation	.051	-.162	-.120	-.480*	-.512*	-.320*	-.343*	.258	-.336*
5. Total Principal Leadership	-.022	-.227	-.211	-.438*	-.413*	-.138	-.161	.242	-.144
6. Unit Leader Support	.234	.126	.220	-.124	-.138	-.077	-.351*	-.074	-.231
7. Unit Leader Goal Emphasis	.194	.237	.299	.019	-.084	-.055	-.408*	-.121	-.252
8. Unit Leader Work Facilitation	.022	.184	.173	.056	.041	-.085	-.405*	-.228	-.296
9. Unit Leader Interaction Facilitation	.205	.144	.222	-.151	-.160	-.186	-.354*	-.004	-.284
10. Total Unit Leader Leadership	.181	.190	.251	-.049	-.092	-.104	-.412*	-.117	-.285

* Significant at the .05 or higher level

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shown in Table 3.3, a majority of the dependent variables of job satisfaction had negative skew coefficients; seven of the variables were negative and two were positive, Five of the kurtosis coefficients were negative while four were positive, indicating a slight platykurtic curve.

Hayes (1973) stated that the correlation coefficient is a measure of the degree of association between two variables. If the variables are completely independent of each other, then the correlation coefficient will be zero. A negative correlation is the result of a negative association between variables, that is, as one increases the other tends to decrease. A positive correlation indicates that as one variable increases, the other tends to increase also. A perfect negative association will have a correlation coefficient of -1.00 , while a perfect positive association will have a correlation coefficient of $+1.00$. The values for this statistic will always fall between ± 1.0 .

Table 3.4 presents the intercorrelations of the nine independent structure variables, Table 3.5 presents the intercorrelations of the ten leader behavior variables, and Table 3.6 presents the intercorrelations of the structure variables and the leader behavior variables. It should be noted that among the independent structure variables there was about an equal mix of positive and negative relationships and only eight of the 45 correlations had an .05 or higher significance level. In the relationships among the leader behavior variables, all but two of the relationships were positive, but 24 of the 55 relationships

Table 3.7
Correlation of Dependent Variables of Job Satisfaction

VARIABLE	1	2	3	4	5	6	7	8	9
1. Job Satisfaction - Administration	1.000								
2. Job Satisfaction - Co-Workers	.554*	1.000							
3. Job Satisfaction - Career Future	.725*	.668*	1.000						
4. Job Satisfaction - School Identification	.739*	.732*	.746*	1.000					
5. Job Satisfaction - Financial Aspects	.426*	.494*	.266	.590*	1.000				
6. Job Satisfaction - Working Conditions	.561*	.557*	.593*	.593*	.604*	1.000			
7. Job Satisfaction - Pupil Relations	.431*	.372*	.527*	.570*	.321*	.658*	1.000		
8. Job Satisfaction - Community Relations	.551*	.415*	.608*	.669*	.336*	.473*	.647*	1.000	
9. Total Job Satisfaction	.848*	.737*	.822*	.888*	.614*	.832*	.709*	.734*	1.000

*Significant at the .05 or higher level

Table 3.8
Correlation Between the Dependent Variable Job Satisfaction and the Independent Variables of Organizational Structure
(N = 41)

	PROFESSIONAL COMPLEXITY	BUILDING COMPLEXITY	ORGANIZATIONAL COMPLEXITY	FORMALIZA- TION	STRATIFI- CATION	CENTRALI- ZATION EXTRA SCHOOL	CENTRALI- ZATION SCHOOL WIDE	CENTRALIZA- TION UNIT WIDE	CENTRALI- ZATION TOTAL QUESTION ONE
Job Satisfaction Administration	-.053 (.743)	-.220 (.163)	-.219 (.163)	-.570* (.000)	-.513* (.001)	-.117 (.526)	-.043 (.784)	.314* (.043)	-.067 (.679)
Job Satisfaction Co-Workers	.112 (.509)	.146 (.635)	.181 (.256)	-.518* (.001)	-.658* (.000)	-.176 (.271)	.033 (.832)	.268 (.832)	-.051 (.749)
Job Satisfaction Career Future	.088 (.592)	-.272 (.032)	-.200 (.207)	-.602* (.000)	-.475* (.002)	-.190 (.231)	.038 (.810)	.342* (.026)	-.021 (.659)
Job Satisfaction School Identification	.163 (.311)	-.041 (.796)	.039 (.805)	-.509* (.001)	-.534* (.001)	-.192 (.227)	-.036 (.822)	.469* (.002)	-.116 (.515)
Job Satisfaction Financial Aspects	.099 (.546)	.144 (.626)	.173 (.280)	-.203 (.201)	-.299 (.055)	-.060 (.711)	-.259 (.099)	.272 (.081)	-.236 (.134)
Job Satisfaction Working Conditions	-.039 (.804)	-.095 (.560)	-.102 (.531)	-.456* (.003)	-.407* (.008)	.138 (.607)	.036 (.817)	.472* (.002)	.125 (.559)
Job Satisfaction Pupil Relations	.109 (.504)	-.325* (.036)	-.238 (.131)	-.242 (.124)	-.230 (.145)	.060 (.712)	.060 (.710)	.368* (.017)	.092 (.576)
Job Satisfaction Community Relations	.251 (.109)	-.341* (.027)	-.187 (.241)	-.302* (.052)	-.361* (.019)	.093 (.272)	.286 (.570)	-.030 (.667)	(.848)
Total Job Satisfaction	.071 (.664)	-.178 (.264)	-.125 (.559)	-.572* (.000)	-.559* (.000)	-.084 (.609)	.001 (.991)	.463* (.003)	-.020 (.695)

Note: * Significant at the .05 or higher level.
Exact probability levels in parenthesis.
Degrees of freedom = 39.

had a significance level of .05 or higher. Table 3.6 presents the relationships between the independent structural variables and the independent leader behavior variables. In 90 of the relationships presented, 65 were negative with only 17 at the .05 or higher significance level. It is beyond the scope of the present study to do more than present this information, but it is suggested that this might be an interesting and fruitful area to investigate at a later date. Table 3.7 presents the intercorrelations of the dependent variables. All but one of the relationships among the dependent variables were positive and significant at the .05 level. The ideal predictive situation (Kerlinger, 1973, p. 622) occurs when there is a high correlation between the independent and dependent variables, but a low correlation among the independent variables. A low correlation between dependent variables is often not easy to achieve and therefore complicates the interpretation of the relationships as it becomes difficult to determine the relative influence of the independent variables on the dependent variables.

The correlations between the dependent variable and the independent variables are presented in Tables 3.8 and 3.9. Table 3.8 presents the dependent variable of job satisfaction and the independent variable of organizational structure. The null hypotheses for these variables state that there is no relationship between job satisfaction (administration, co-workers, career future, school identification, financial aspects working conditions, pupil relations, community relations, total job satisfaction) and organizational structure

(complexity, formalization, stratification, centralization).

The correlations between job satisfaction and the organizational structure variables show that professional complexity was positively related to six of the job satisfaction scales (co-workers, career future, school identification, financial aspects, pupil relations, community relations) and total job satisfaction and negatively related to the administration and working condition scales. None of these correlations were high enough to be significant and none were at the .05 significance level. Building complexity and job satisfaction show that six scales (administration, career future, school identification, working conditions, pupil relations, community relations) and total job satisfaction were negatively correlated and co-workers and financial aspects were positively correlated. Two scales -- pupil relations and community relations -- were significantly correlated with building complexity at the .05 level, while none of the remaining scales were significant. The organizational complexity and job satisfaction relationship presents five negatively correlated scales (administration, career future, working conditions, pupil relations, community relations) and the total and three positively correlated scales (co-workers, school identification, financial aspects), but none were significant. The null hypothesis for complexity and job satisfaction therefore cannot be rejected because only two of the 27 relationships between these variables were significantly correlated. It is of interest also to note that slightly over half of these relationships were negative and therefore in the opposite direction to that specified in the

literature.

The null hypotheses for stratification and job satisfaction and formalization and job satisfaction can be rejected because both of these variables were strongly related to job satisfaction at the .05 or higher significance level. Formalization was negatively associated with job satisfaction in each of the scales and with total job satisfaction. This is in the direction predicted by the alternative hypothesis against which the null was tested. Job satisfaction with financial aspects and pupil relations were the only scales in which the relationship was not significant at the .05 level. Stratification was also negatively associated with job satisfaction in each of the job satisfaction scales and with total job satisfaction. Again, the only scales not significant at the .05 level were the financial aspects and pupil relations scales; however, all of the scales were associated in the direction specified in the alternative hypothesis.

Correlations between centralization and job satisfaction show that extra school and job satisfaction, school wide and job satisfaction, and total question one and job satisfaction were not significant. The only significance that occurred was between unit wide and job satisfaction. This relationship had five scales that were significant (administration, career future, school identification, working conditions, pupil relations) plus total job satisfaction. Statistically, the null hypothesis for centralization and job satisfaction cannot be rejected because only six of the 36 relations were significant; however, one must not lose sight of the fact that at the unit level,

Table 3.9

Correlation Between the Dependent Variable Job Satisfaction and the Independent Variables of Leader Behavior

(N = 41)

	PRINCIPAL SUPPORT	PRINCIPAL GOAL EMPHASIS	PRINCIPAL WORK FACILITATION	PRINCIPAL INTERACTION FACILITATION	TOTAL PRINCIPAL LEADERSHIP	UNIT LEADER SUPPORT	UNIT LEADER GOAL EMPHASIS	UNIT LEADER WORK FACILI- TATION	UNIT LEADER INTERACTION FACILITA- TION	UNIT LEADER LEADER LEADERSHIP
Job Satisfaction Administration	.852* (.000)	.779* (.000)	.850* (.000)	.751* (.000)	.911* (.000)	.081 (.619)	.053 (.741)	-.057 (.724)	.126 (.561)	.056 (.728)
Job Satisfaction Co-Workers	.386* (.012)	.345* (.026)	.307* (.048)	.482* (.002)	.421* (.006)	.069 (.673)	-.000 (.994)	-.083 (.611)	.048 (.762)	.010 (.950)
Job Satisfaction Career Future	.684* (.000)	.470* (.002)	.541* (.000)	.624* (.000)	.651* (.000)	.028 (.854)	-.003 (.982)	-.089 (.586)	.117 (.529)	.015 (.921)
Job Satisfaction School Identifi- cation	.613* (.000)	.541* (.000)	.586* (.000)	.637* (.000)	.664* (.000)	.164 (.308)	.045 (.779)	-.098 (.548)	.153 (.658)	.072 (.661)
Job Satisfaction Financial Aspects	.357* (.021)	.366* (.018)	.366* (.018)	.402* (.009)	.415* (.007)	.081 (.622)	-.008 (.958)	-.052 (.745)	.044 (.783)	.017 (.914)
Job Satisfaction Working Conditions	.487* (.002)	.369* (.017)	.399* (.010)	.396* (.010)	.467* (.002)	.013 (.936)	-.020 (.895)	-.077 (.637)	.049 (.759)	-.011 (.946)
Job Satisfaction Pupil Relations	.472* (.002)	.229 (.146)	.317* (.041)	.200 (.201)	.355* (.021)	-.132 (.584)	-.280 (.073)	-.269 (.085)	-.220 (.164)	-.244 (.120)
Job Satisfaction Community Relations	.427* (.006)	.442* (.004)	.457* (.003)	.320* (.037)	.469* (.002)	-.112 (.509)	-.100 (.540)	-.313* (.044)	-.094 (.547)	-.160 (.317)
Total Job Satisfaction	.722* (.000)	.610* (.000)	.659* (.000)	.637* (.000)	.741* (.000)	.039 (.806)	-.028 (.854)	-.149 (.644)	.057 (.723)	-.021 (.891)

Note: * Significant at the .05 or higher level.
Exact probability levels in parentheses.
Degrees of freedom = 39.

centralization and job satisfaction are strongly and significantly related. It must also be pointed out that the remainder of the relationships did follow the general trend that centralization is negatively related to job satisfaction.

In regard to the structural variables and job satisfaction, it therefore can be stated that formalization and stratification are significantly related to job satisfaction in the direction predicted, but that no significant relation was found between complexity and job satisfaction or between centralization and job satisfaction. The null hypothesis stating that there is no relationship between the structural variables and job satisfaction can be rejected because relationships did exist albeit not for all of the structural variables. The combined effects of the structural variables on job satisfaction were examined using multiple regression and the results are reported later.

Table 3.9 presents the correlations between the dependent variable of job satisfaction and the independent variable of leader behavior. The null hypothesis for these two variables states that there is no relationship between job satisfaction (administration, co-workers, career future, school identification, financial aspects, working conditions, pupil relations, community relations, total job satisfaction) and (1) principal leader behavior (support, goal emphasis, work facilitation, interaction facilitation, total principal leadership), and (2) unit leader behavior (support, goal emphasis, work facilitation, interaction facilitation, total unit leader leadership).

The correlations between principal support and all of the job satisfaction scales were significant at the .05 or higher level. Principal goal emphasis and job satisfaction were significantly correlated, except for the pupil relations scale. Principal work facilitation correlated significantly at the .05 level or higher with all the job satisfaction scales plus total job satisfaction. Principal interaction facilitation correlated significantly with the job satisfaction scales with one exception -- pupil relations. The relationship between total principal leadership and all the job satisfaction scales, as well as total job satisfaction, were significant at the .05 level or higher. Therefore, the null hypothesis for principal leader behavior and job satisfaction could be rejected. The direction that is specified in the alternative hypothesis is that all the relationships found between principal leader behavior and job satisfaction would be positive. Table 3.9 shows that all the relationships associated with these two variables were in the positive direction.

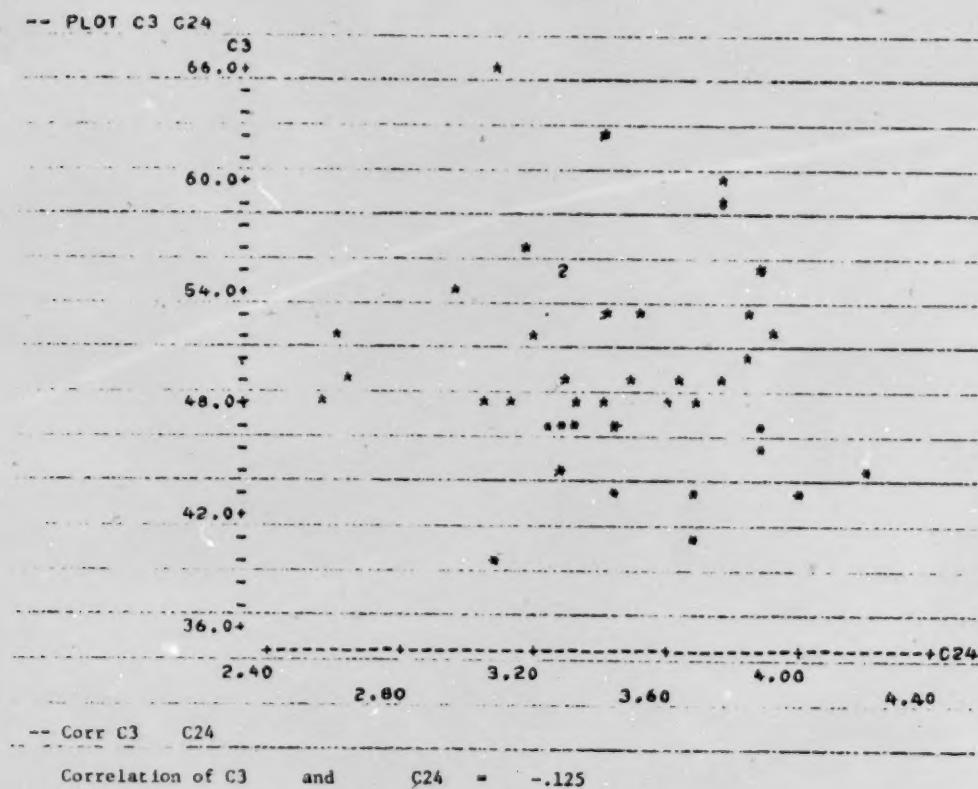
The correlations found between unit leader behavior and job satisfaction show that unit leader support was not significantly correlated with any of the job satisfaction scales or total job satisfaction. Unit leader goal emphasis had no significant relationships with any of the job satisfaction scales or total job satisfaction. Only one relationship, involving unit leader work facilitation and job satisfaction, was significant, and that was with community relations. None of the correlations between unit leader interaction facilitation and job satisfaction were significant and this was also

true for the relationship between total unit leader leadership and job satisfaction. The null hypothesis for unit leader behavior and job satisfaction therefore could not be rejected. It must also be pointed out that it was predicted that these relationships would be in the positive direction. A count of the relationships between these two variables reported in Table 3.9 shows that 24 of the 45 correlations were in the negative direction, exactly opposite from that which was predicted and that of the 45 relationships, only one was statistically significant.

In regard to the leader behavior variables and job satisfaction, it can therefore be stated that principal leader behavior was significantly related to job satisfaction in the direction predicted, but no significant relationship existed between unit leader behavior and job satisfaction. The null hypothesis therefore could be rejected because a relationship did exist between leader behavior and job satisfaction although the strength of the relationship was with the variables associated with principal leader behavior. The combined effects of the leader behavior variables on job satisfaction were examined using multiple regression and the results are reported later.

The Minitab statistical computing system (Ryan, Joiner, Ryan, 1974) provides a scattergram diagram of correlations. This system plots an independent variable against a dependent variable for every element in the sample. Such a diagram allows the analyst to study correlational relationships more intensely. If a curvilinear relationship exists between two sets of data, the correlation between

Table 3.10
 CORRELATION BETWEEN ORGANIZATIONAL COMPLEXITY AND TOTAL JOB SATISFACTION
 (N = 41)

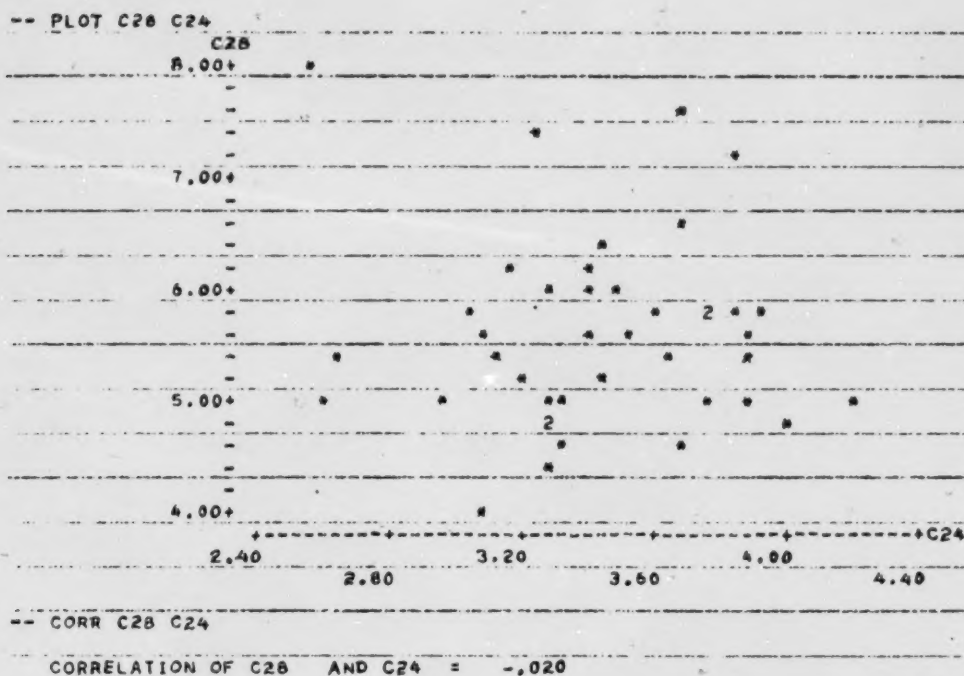


Note: C3 = Organizational Complexity
 C24 = Total Job Satisfaction

Table 3.11

CORRELATION BETWEEN CENTRALIZATION (TOTAL QUESTION ONE) AND TOTAL JOB SATISFACTION

(N = 41)

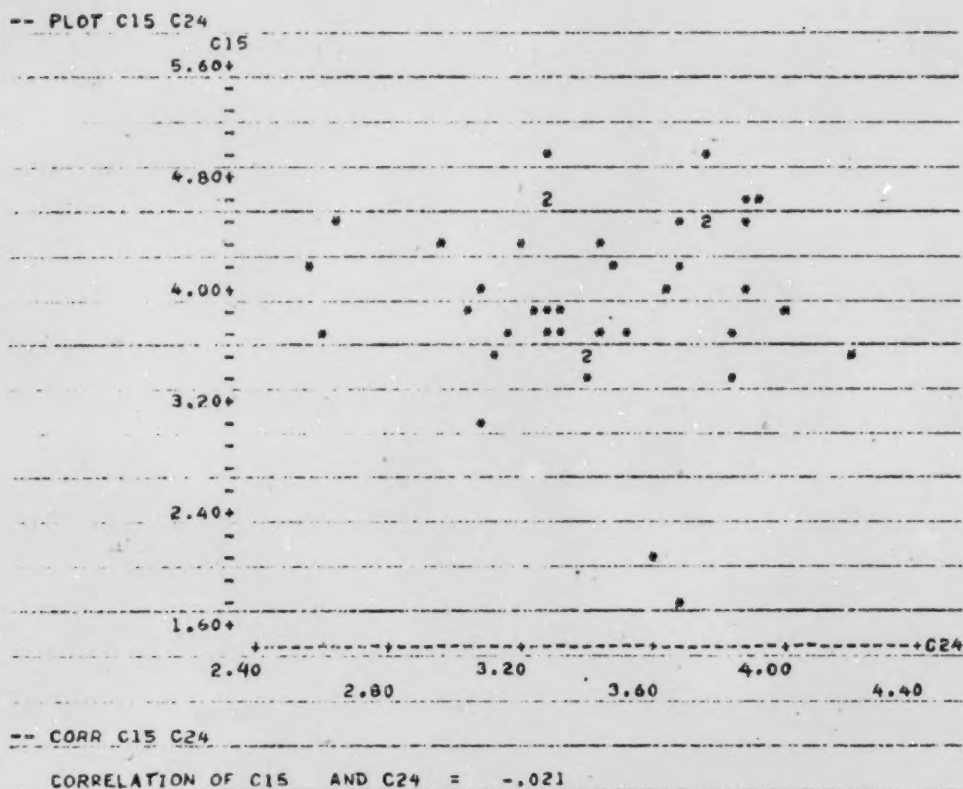


Note: C28 = Centralization (Total Question One)
C24 = Total Job Satisfaction

Table 3.12

CORRELATION BETWEEN UNIT LEADER LEADERSHIP AND TOTAL JOB SATISFACTION

(N = 41)



Note: C15 = Unit Leader Leadership
C24 = Total Job Satisfaction

these two sets of data would be close to 0, indicating no relationship when in fact, there is a relationship. A scattergram helps the analyst identify such a relationship. Tables 3.10, 3.11, and 3.12 provide plottings of those variables for which the null hypotheses could not be rejected.

Table 3.10 depicts the relationship between the independent variable, organizational complexity and the dependent variable, total job satisfaction. The correlation between these variables was $-.125$. A study of the plotting reveals no special relationship. Table 3.11 depicts the relationship between the independent variable, centralization (Total Question One), and the dependent variable, total job satisfaction. The correlation between these variables was $-.020$ and no special pattern emerged from the plotting. Table 3.12 depicts the relationship between the independent variable, unit leader leadership, and the dependent variable, total job satisfaction. The correlation between these variables was $-.021$. Again, no special relationship is discernible from the scattergram.

In summary, the correlational statistics presented in this chapter indicate that there was statistical significance between the dependent variable, job satisfaction and the independent variables, formalization, stratification, and principal leader behavior. The correlational statistics further indicate that there was no statistically significant relationship between the dependent variable, job satisfaction, the independent variables, complexity, centralization, and unit leader leader behavior. Therefore, both null hypotheses could be

rejected because of the relationships that existed between the dependent variable and the independent variables.

Multiple Regression Tests of the Hypotheses

The relationship between the independent variables, organizational structure and leader behavior, and the dependent variables, job satisfaction, was analyzed using multiple regression techniques. The null hypothesis that this statistical procedure tests stated that the amount of variance in job satisfaction accounted for by the structural variables is equal to the amount of variance in job satisfaction accounted for by the leader behavior variables.

Multiple regression is essentially an attempt to formulate an equation for predicting a criterion or dependent variable from information known about two or more independent variables (Walker and Lev, 1953, p. 230). The regression equation is based on the assumption that the relationships between the variables are linear. The analysis therefore focuses on the question of whether a linear relationship exists, the strength of the relationship, and the usefulness of a linear equation in predicting the dependent variable (Hayes, 1963, p. 491). The specific regression model used was the stepwise procedure and the analyses were performed through the use of PROGRAM STEPREG 1 (Allen, 1973). This regression model permits an examination of the combined and individual contributions of the independent variables in predicting the dependent variable using a linear equation. Two basic regression models were generated. One model was generated for relating all the independent variables of organizational structure to each scale and the

Table 3.13

Regression Analysis with Dependent Variable of Job Satisfaction

Administration

Step Number	Variable Entered	Multiple Correlation Coefficient	Coefficient of Determination	Significance Level
Organizational Structure Variables				
1.	Formalization	.5776	.3336	.000
2.	Building Complexity	.6042	.3650	.178
3.	Stratification	.6217	.3866	.262
4.	Centralization (School-wide)	.6334	.4012	.355
5.	Centralization (Extra-school)	.6401	.4097	.481
6.	Centralization (Unit-wide)	.6470	.4186	.476
7.	Organizational Complexity	.6511	.4239	.585
8.	Professional Complexity	.6556	.4299	.568
9.	Centralization (Total Question One)	.6558	.4301	.904
Leader Behavior Variables				
1.	Total principal leadership	.9114	.8307	.000
2.	Unit Leader Interaction Facilitation	.9184	.8434	.088
3.	Principal Goal Emphasis	.9254	.8564	.075
4.	Unit Leader Goal Emphasis	.9272	.8597	.359
5.	Unit Leader Work Facilitation	.9294	.8637	.320
6.	Principal Work Facilitation	.9304	.8656	.497
7.	Principal Interaction Facilitation	.9307	.8662	.708
8.	Principal Support	.9360	.8762	.117
9.	Total Unit Leader Leadership	.9367	.8774	.587
10.	Unit Leader Support	.9390	.8817	.301

total for the dependent variable, job satisfaction. A second model was generated for relating the independent variables of leader behavior to each scale and the total for the dependent variable, job satisfaction. Tables 3.13 through 3.21 depict these equations.

In each of these models, the independent variables were designated as free variables and were regressed on the dependent variable employing a forward selection procedure. The forward selection procedure uses an approach in which the independent variable which has the highest correlation with the dependent variable is chosen. A regression equation using only this one independent variable is then determined. Successive independent variables are then chosen whose partial correlation with the dependent variable is the highest, given the variables already in the equation. This procedure continues until all of the independent variables have been included in the model.

The regression tables present the following information for each set of the independent variables:

1. The name of the individual variable in each group of independent variables entered into the regression equation
2. The multiple correlation coefficient which is a measure of the strength of the linear relationship between the dependent variable and all the independent variables in the equation
3. The coefficient of determination, R-squared, which is the square of the multiple correlation coefficient and is the percent of the total variation of the dependent variable explained by those independent variables currently in the equation
4. The significance level or step which gives the value at which the variable entered the equation at the specific step

Table 3.14
Regression Analysis with Dependent Variable of Job Satisfaction
Co-Workers

Step Number	Variable Entered	Multiple Correlation Coefficient	Coefficient of Determination	Significance Level
Organizational Structure Variables				
1.	Stratification	.6581	.4331	.000
2.	Organizational Complexity	.6928	.4800	.072
3.	Formalization	.7002	.4903	.394
4.	Centralization (Unit-wide)	.7039	.4955	.545
5.	Professional Complexity	.7044	.4962	.822
6.	Building Complexity	.7130	.5083	.367
7.	Centralization (School-wide)	.7155	.5119	.624
8.	Centralization (Extra-school)	.7165	.5134	.761
9.	Centralization (Total Question One)	.7213	.5202	.511
Leader Behavior Variables				
1.	Principal Interaction Facilitation	.4823	.2326	.001
2.	Unit Leader Interaction Facilitation	.5322	.2833	.109
3.	Unit Leader Support	.5450	.2970	.401
4.	Principal Work Facilitation	.5572	.3104	.408
5.	Principal Goal Emphases	.5669	.3214	.457
6.	Total Principal Leadership	.5693	.3241	.713
7.	Principal Support	.5985	.3582	.195
8.	Unit Leader Work Facilitation	.6006	.3607	.723
9.	Unit Leader Goal Emphasis	.6006	.3608	.964
10.	Total Unit Leader Leadership	.6013	.3616	.849

Table 3.15
Regression Analysis with Dependent Variable of Job Satisfaction
Career Future

Step Number	Variable Entered	Multiple Correlation Coefficient	Coefficient of Determination	Significance Level
Organizational Structure Variables				
1.	Formalization	.6018	.3622	.000
2.	Building Complexity	.6433	.4139	.075
3.	Centralization (Unit-wide)	.6581	.4331	.271
4.	Organizational Complexity	.6663	.4439	.407
5.	Professional Complexity	.6691	.4477	.628
6.	Centralization (Extra-school)	.6705	.4496	.734
7.	Centralization (Total Question One)	.6716	.4510	.772
8.	Centralization (School-wide)	.6786	.4604	.460
9.	Stratification	.6804	.4630	.703
Leader Behavior Variables				
1.	Principal Support	.6836	.4673	.000
2.	Principal Interaction Facilitation	.7112	.5059	.093
3.	Unit Leader Support	.7239	.5240	.242
4.	Unit Leader Work Facilitation	.7266	.5279	.589
5.	Principal Goal Emphasis	.7290	.5315	.609
6.	Total Unit Leader Leadership	.7324	.5364	.552
7.	Principal Work Facilitation	.7368	.5429	.500
8.	Total Principal Leadership	.7372	.5434	.843
9.	Unit Leader Interaction Facilitation	.7372	.5435	.955
10.	Unit Leader Goal Emphasis	.7647	.5848	.094

Table 3.13 presents the relationships between: (1) the independent organizational structure variables and the dependent variable of job satisfaction with the administration and (2) the independent leader behavior variables and the dependent variable of job satisfaction with the administration. The significance level indicates that formalization was the most significant predictor variable, i.e. accounted for the most variance. Formalization entered at the first step of the equation at $> .001$ significance level and explained 83 percent of the variance. Therefore, the independent leader behavior variables accounted for more variance in the dependent variable job satisfaction administration than did the independent organizational structural variables. Formalization was the most influential structure variable while total principal leadership was the most influential leader behavior variable.

Table 3.14 illustrates the relationships between (1) the independent variables of organizational structure and the dependent variable of job satisfaction with co-workers and (2) the independent variables of leader behavior and the dependent variable of job satisfaction with co-workers. Approximately 52 percent of the variance in job satisfaction with co-workers was explained by the organizational structure variables, while approximately 36 percent of the variance in job satisfaction co-workers was explained by the leader behavior variables. This table also illustrates that of the structure variables, stratification had the greatest impact on the dependent variable and that of the leader behavior variables, principal inter-

Table 3.16
Regression Analysis with Dependent Variable of Job Satisfaction
School Identification

Step Number	Variable Entered	Multiple Correlation Coefficient	Coefficient of Determination	Significance Level
Organizational Structure Variables				
1.	Stratification	.5337	.2849	.000
2.	Centralization (Unit-wide)	.6302	.3971	.011
3.	Formalization	.6424	.4126	.329
4.	Professional Complexity	.6556	.4298	.305
5.	Centralization (Total Question One)	.6566	.4311	.780
6.	Centralization (Extra-school)	.6586	.4338	.690
7.	Centralization (School-wide)	.6636	.4403	.538
8.	Organizational Complexity	.6636	.4404	.961
9.	Building Complexity	.6636	.4404	.963
Leader Behavior Variables				
1.	Total Principal Leadership	.6641	.4411	.000
2.	Principal Interaction Facilitation	.6785	.4603	.251
3.	Unit Leader Work Facilitation	.7118	.5066	.070
4.	Unit Leader Support	.7261	.5272	.219
5.	Unit Leader Interaction Facilitation	.7277	.5295	.680
6.	Principal Goal Emphasis	.7289	.5312	.727
7.	Principal Support	.7310	.5344	.641
8.	Principal Work Facilitation	.7483	.5599	.182
9.	Total Unit Leader Leadership	.7501	.5627	.661
10.	Unit Leader Goal Emphasis	.7510	.5640	.763

action facilitation had the greatest impact on the dependent variable. Each of these variables entered their respective equations at $> .001$ and the .001 significance level. Job satisfaction with co-workers therefore was influenced more by the organizational variables than by the leader behavior variables.

Table 3.15 depicts the relationships between the dependent variable of job satisfaction with career future and the independent variables of organizational structure and leader behavior. The amount of variance explained by the structure variables was 46 percent. The amount of variance explained by the leader behavior variables was 58 percent. Formalization was the most influential of the structure variables, accounting for 36 percent of the variance at $> .001$ significance level. Principal support was the most influential of the leader behavior variables by accounting for 46 percent of the variance at $> .001$ significance level. The dependent variable job satisfaction with career future is therefore more influenced by the leader behavior variables than by the organizational structure variables.

The relationships between the independent variables of organizational structure and leader behavior and the dependent variable of job satisfaction, school identification, are presented in Table 3.16. The amount of variance accounted for in this dependent variable by the organizational structure variables was 44 percent and the amount of variance accounted for by the leader behavior variables was 56 percent. The individual variables that impacted most strongly on job satisfaction, school identification, were stratification and

Table 3.17
Regression Analysis with Dependent Variable of Job Satisfaction
Financial Aspects

Step Number	Variable Entered	Multiple Correlation Coefficient	Coefficient of Determination	Significance Level
Organizational Structure Variables				
1.	Stratification	.2989	.0894	.058
2.	Centralization (School-wide)	.4099	.1680	.066
3.	Building Complexity	.4598	.2111	.164
4.	Centralization (Unit-wide)	.4904	.2405	.246
5.	Centralization (Extra-school)	.5119	.2620	.319
6.	Centralization Total Question One	.5693	.3241	.086
7.	Formalization	.5746	.3301	.590
8.	Professional Complexity	.5759	.3316	.789
9.	Organizational Complexity	.5788	.3351	.692
Leader Behavior Variables				
1.	Total Principal Leadership	.4156	.1728	.007
2.	Principal Interaction Facilitation	.4259	.1814	.530
3.	Unit Leader Interaction Facilitation	.4488	.2014	.342
4.	Unit Leader Support	.4705	.2214	.342
5.	Principal Goal Emphasis	.4727	.2234	.763
6.	Unit Leader Goal Emphasis	.4773	.2278	.664
7.	Principal Work Facilitation	.4776	.2281	.905
8.	Principal Support	.4800	.2304	.760
9.	Unit Leader Work Facilitation	.4800	.2304	.984
10.	Total Unit Leader Leadership	.4964	.2464	.431

centralization, unit-wide, of the organizational structure variables at $> .001$ and $.011$ significance levels, respectively, and total principal leadership of the leader behavior variables at $> .001$ significance level. More variance on job satisfaction, school identification, was accounted for by the leader behavior variables than by the organizational structure variables.

The relationships between the independent variables of organizational structure and leader behavior and the dependent variable of job satisfaction, financial aspects, are illustrated in Table 3.17. This table shows that the organizational structure variables accounted for 33 percent of the variance in the dependent variable and that the leader behavior variables account for a total variance of slightly over 24 percent. This means that the organizational structure variables impacted more strongly on job satisfaction, financial aspects, than did the leader behavior variables. Stratification was the most influential of the structure variables, though centralization school-wide was a close second, entering the equation at the $.066$ level of significance. Total principal leadership was the most influential of the leader behavior variables accounting for 17 percent of the total 24 percent of variation at the $.007$ level of significance.

Depicted in Table 3.18 are the relationships between the dependent variable of job satisfaction, working conditions, and the independent variables of organizational structure and leader behavior. The total variance in this dependent variable accounted for by the organizational structure variables is over 43 percent with three of

the individual variables entering the equation at the .05 or higher significance level. The three structure variables were: (1) centralization unit-wide with 22 percent variance; (2) formalization with 10 percent variance; and (3) centralization extra-school with 7 percent variance. The total variance accounted for by the leader behavior variables was 26 percent with principal support being the strongest variable in the equation at the .001 significance level and with 23 percent of the impact. Job satisfaction, working conditions, was therefore more influenced by the structural variables than by the leader behavior variables.

Table 3.19 shows the regression equations for the dependent variable of job satisfaction, pupil relations, and the independent variables of organizational structure and leader behavior. The total variance in job satisfaction, pupil relations, accounted for by organizational structure was 31 percent and the total variance accounted for by leader behavior was slightly over 38 percent. The dependent variable of job satisfaction, pupil relations, was impacted more strongly by leader behavior than by organizational structure. Two organizational structure variables had the most influence -- centralization unit-wide with 13 percent variance at the .018 level, and building complexity with 9 percent variance at the .041 level. There also were two leader behavior variables with strong influence -- principal support with 22 percent variance at the .002 level, and unit leader interaction facilitation with approximately 8 percent variance at the .044 level.

Table 3.18
Regression Analysis with Dependent Variable of Job Satisfaction
Working Conditions

Step Number	Variable Entered	Multiple Correlation Coefficient	Coefficient of Determination	Significance Level
Organizational Structure Variables				
1.	Centralization (Unit-wide)	.4722	.2230	.002
2.	Formalization	.5676	.3221	.024
3.	Centralization (Extra-school)	.6249	.3905	.049
4.	Stratification	.6431	.4135	.243
5.	Centralization Total Question One	.6547	.4287	.342
6.	Building Complexity	.6581	.4332	.607
7.	Organizational Complexity	.6582	.4332	.953
8.	Professional Complexity	.6627	.4392	.562
9.	Centralization (School-wide)	.6627	.4392	.994
Leader Behavior Variables				
1.	Principal Support	.4872	.2374	.001
2.	Total Principal Leadership	.4944	.2445	.554
3.	Unit Leader Work Facilitation	.4976	.2477	.695
4.	Principal Interaction Facilitation	.4998	.2498	.748
5.	Unit Leader Support	.5003	.2503	.883
6.	Unit Leader Goal Emphasis	.5008	.2508	.884
7.	Total Unit Leader Leadership	.5010	.2510	.933
8.	Principal Work Facilitation	.5010	.2510	.963
9.	Principal Goal Emphasis	.5152	.2654	.442
10.	Unit Leader Interaction Facilitation	.5168	.2671	.791

Table 3.19
Regression Analysis with Dependent Variable of Job Satisfaction
Pupil Relations

Step Number	Variable Entered	Multiple Correlation Coefficient	Coefficient of Determination	Significance Level
Organizational Structure Variables				
1.	Centralization (Unit-wide)	.3676	.1351	.018
2.	Building Complexity	.4756	.2262	.041
3.	Centralization (Extra-school)	.5003	.2503	.282
4.	Stratification	.5214	.2719	.309
5.	Organizational Complexity	.5375	.2889	.366
6.	Professional Complexity	.5438	.2957	.570
7.	Formalization	.5501	.3026	.571
8.	Centralization (School-wide)	.5523	.3050	.742
9.	Centralization Total Question One	.5603	.3139	.530
Leader Behavior Variables				
1.	Principal Support	.4719	.2227	.002
2.	Unit Leader Interaction Facilitation	.5499	.3024	.044
3.	Unit Leader Support	.5763	.3322	.207
4.	Principal Goal Emphasis	.5777	.3337	.774
5.	Principal Work Facilitation	.5807	.3372	.669
6.	Unit Leader Goal Emphasis	.5815	.3381	.837
7.	Unit Leader Work Facilitation	.5818	.3384	.895
8.	Total Unit Leader Leadership	.5966	.3560	.357
9.	Total Principal Leadership	.5970	.3564	.892
10.	Principal Interaction Facilitation	.6239	.3893	.213

Table 3.20 presents the regression equations for the dependent variable of job satisfaction, community relations, and the independent variables of organizational structure and leader behavior. Organizational structure accounted for 38 percent of the total variance in job satisfaction, community relations. This table illustrates that job satisfaction, community relations, was more strongly influenced by the leader behavior variables than by the organizational structure variables. Two organizational structure variables -- stratification and building complexity -- entered the equation at the .021 and .036 levels of significance, respectively. Total principal leadership and unit leader work facilitation were the two strongest leader behavior variables, entering the equation at the .002 and .014 significance levels respectively.

Table 3.21 depicts the relationships between the independent variables of organizational structure and leader behavior and the dependent variable of total job satisfaction. The total amount of variance in total job satisfaction accounted for by organizational structure was over 48 percent, while the total amount of variance in total job satisfaction accounted for by leader behavior was 62 percent. Total job satisfaction was therefore more influenced by leader behavior than by organization structure. Two individual organizational structure variables impacted strongly on total job satisfaction -- formalization and centralization unit-wide. They each entered the equation at .05 or higher level of significance. Total principal leadership impacted most strongly of the leader behavior variables,

Table 3.20
Regression Analysis with Dependent Variable of Job Satisfaction
Community Relations

Step Number	Variable Entered	Multiple Correlation Coefficient	Coefficient of Determination	Significance Level
Organizational Structure Variables				
1.	Stratification	.3607	.1301	.021
2.	Building Complexity	.4758	.2264	.036
3.	Professional Complexity	.5304	.2813	.101
4.	Centralization (School-wide)	.5626	.3166	.181
5.	Centralization (Unit-wide)	.5926	.3512	.180
6.	Organizational Complexity	.6128	.3756	.258
7.	Centralization Total Question One	.6148	.3780	.723
8.	Centralization (Extra-school)	.6202	.3847	.559
9.	Formalization	.6202	.3847	.978
Leader Behavior Variables				
1.	Total Principal Leadership	.4689	.2199	.002
2.	Unit Leader Work Facilitation	.5799	.3363	.014
3.	Unit Leader Goal Emphasis	.6159	.3793	.118
4.	Principal Work Facilitation	.6323	.3998	.276
5.	Principal Goal Emphasis	.6401	.4098	.447
6.	Unit Leader Support	.6445	.4154	.572
7.	Unit Leader Interaction Facilitation	.6447	.4156	.901
8.	Total Unit Leader Leadership	.6746	.4551	.138
9.	Principal Interaction Facilitation	.6752	.4558	.836
10.	Principal Support	.6791	.4612	.590

Table 3.21
Regression Analysis with Dependent Variable of Total Job Satisfaction

Step Number	Variable Entered	Multiple Correlation Coefficient	Coefficient of Determination	Significance Level
Organizational Structure Variables				
1.	Formalization	.5718	.3270	.000
2.	Centralization (Unit-wide)	.6394	.4088	.027
3.	Stratification	.6726	.4524	.095
4.	Building Complexity	.6820	.4652	.360
5.	Centralization (Extra-school)	.6891	.4749	.427
6.	Centralization Total Question One	.6952	.4833	.463
7.	Professional Complexity	.6980	.4871	.621
8.	Organizational Complexity	.6990	.4886	.762
9.	Centralization (School-wide)	.6996	.4895	.823
Leader Behavior Variables				
1.	Total Principal Leadership	.7408	.5488	.000
2.	Unit Leader Work Facilitation	.7656	.5861	.072
3.	Principal Goal Emphasis	.7785	.6060	.180
4.	Unit Leader Goal Emphasis	.7807	.6095	.575
5.	Unit Leader Interaction Facilitation	.7829	.6129	.582
6.	Total Unit Leader Leadership	.7840	.6147	.697
7.	Unit Leader Support	.7854	.6168	.672
8.	Principal Interaction Facilitation	.7865	.6186	.699
9.	Principal Work Facilitation	.7866	.6188	.907
10.	Principal Support	.7877	.6205	.712

entering the equation at $> .001$ level and accounting for 54 percent of the variance out of the total variance of 62 percent.

The information presented in Tables 3.13 through 3.21 clearly illustrates that the null hypothesis, which stated that the amount of variance in job satisfaction accounted for by the structural variables is equal to the amount of variance in job satisfaction accounted for by the leader behavior variables, can be rejected. The leader behavior variables accounted for the most variance in the following job satisfaction scales:

1. administration
2. career future
3. school identification
4. pupil relations
5. community relations
6. total job satisfaction

The organizational structure variables accounted for the most variance in the following job satisfaction scales:

1. co-workers
2. financial aspects
3. working conditions

These findings clearly illustrate that the two groups of independent variables did not account for an equal amount of variance in the dependent variable.

The information presented in Tables 3.13 through 3.21 also provides confirmation that the two null hypotheses which stated that there is no relationship between (1) job satisfaction and leader behavior, and (2) job satisfaction and leader behavior, can also be rejected. In the nine equations involving the organizational structure

variables each of the following variables entered at least one of the equations at the .05 or higher level of significance, thereby establishing the relationship between organizational structure and job satisfaction:

1. Formalization entered four equations with job satisfaction (administration, career future, working conditions, total job satisfaction)
2. Stratification entered four equations with job satisfaction (co-workers, school identification, financial aspects, community relations)
3. Centralization unit-wide entered four equations with job satisfaction (school identification, working conditions, pupil relations, total job satisfaction)
4. Building complexity entered two equations with job satisfaction (pupil relations, community relations)
5. Centralization extra-school entered one equation with job satisfaction (working conditions)

The nine equations involving leader behavior variables had each of the following variables enter at least one of the equations at the .05 or higher significance level, thereby establishing the relationship between leader behavior and job satisfaction:

1. Total principal leadership entered five equations with job satisfaction (administration, school identification, financial aspects, community relations, total job satisfaction)
2. Principal support entered three equations with job satisfaction (career future, working conditions, pupil relations)
3. Principal interaction facilitation entered one equation (co-workers)

4. Unit leader interaction facilitation entered one equation with job satisfaction (pupil relations)
5. Unit leader work facilitation entered one equation with job satisfaction (community relations)

The data presented indicate that all three of the major hypotheses of the present study can be rejected.

CHAPTER IV

SUMMARY, FINDINGS, CONCLUSIONS, AND IMPLICATIONS

This chapter contains three sections. The first consists of an overview of the nature of the study. Section two presents a summary of the findings and conclusions of the study. The final section presents the implications of the study for theory, research, and administrative practice.

Summary of the Study

The Wisconsin Research and Development Center for Cognitive Learning in cooperation with other educational agencies has been developing and refining Individually Guided Education (IGE) with its organizational structure of the multiunit school (MUS-E) since 1965. IGE is an alternative form of schooling designed as a comprehensive system to produce higher educational achievement through providing effectively for individual differences among students in learning styles, rate of learning, level of motivation, and other characteristics (Klausmeier, et al., 1971, p. 17).

The organizational structure of the prototypic multiunit school consists of interrelated groups at three distinct hierarchical levels: the Systemwide Program Committee at the district level (SPC), the Instructional Improvement Committee at the building level (IIC), and the Instruction and Research Units at the student level (I&R

Units) (Klausmeier, et al., 1971, p. 20). The I & R units replace the age-graded, self-contained classroom organization, creates the new and pivotal role of the unit leader and gives new depth, range, and meaning to the roles of the principal and staff teachers. This multiunit organizational-administrative arrangements plan is designed to utilize shared decision making, differentiated staffing, and team teaching. The basic organizational principles that undergird the multiunit form of organization are seen in what organizational analysts call an organic or open organization. The organic or open organization places emphasis on professional autonomy and authority, low stratification, informal relationships, involvement in decision making, low role specificity, innovativeness, and job satisfaction (Hage, 1965, pp. 289-320). It is believed by organizational analysts that the structure of an organization and the leadership functions within that structure make a difference in the outcomes achieved by that organization. The purpose of this study was to investigate the relationships between (1) the structural aspects and (2) the leadership functions of the organization and the organizational outcome of job satisfaction in IGE schools.

The conceptual and theoretical foundations of this study involved four bodies of theory: general systems theory, social systems theory, organizational theory, and leadership theory. General systems theory, as the first foundation, conceptualizes inputs, processes, outputs, and feedback mechanisms of an organization and provides a way to examine linkages and relationships within the school

environment. The school as an educational institution was considered as a general system with inputs in the form of staff members, students, facilities, and materials and outputs as transformed staff members, thus altering future system activity.

Social systems theory, as the second foundation, brings into perspective the processes which convert inputs into outputs by providing a framework for defining and understanding social behavior as it relates to the goals or outcomes of the educational system. Education, as a social system, is a social process functioning within a network of interpersonal relationships. The school as a social system has two basic dimensions, the normative or institutional dimension, and the idiographic or personal dimension. For the purposes of this study, the local school was taken as the unit of analysis or focal social system. The normative dimension of the "processes" component of the school comprises the structure of the school and the leader behavior within the school. The idiographic dimension comprises the staff members of the school with their personalities and need dispositions. The institutional output that was considered in this study was the resulting social behavior of the staff as reflected in the job satisfaction of the staff as a result of the interaction between the normative and idiographic dimensions within the school.

Organizational theory was the third theoretical foundation upon which the present study was based. The sociological perspective for the study of organizations was chosen, since it views organizations as collections of social positions. The school was considered

to be a complex social organization and was examined utilizing a general axiomatic theory of organizations conceived and proposed by Hage (1965). This axiomatic framework considers an organization as a structured and coordinated collectivity of individuals engaged in activities related to a set of outcomes. Hage outlined four variables related to outcomes (ends). The means or structures variables were termed complexity, formalization, stratification, and centralization; the ends or outcomes variables were adaptiveness, effectiveness, efficiency, and job satisfaction. This study was concerned with the four means and the end variable of job satisfaction. The four means were treated as independent variables and the end variable of job satisfaction was treated as the dependent variable.

The fourth foundation of the study was leadership theory. Leadership was considered to be comprised of aggregates of separate behaviors which may be grouped in a variety of ways and are believed to be instrumental in controlling the behavior of others. A four-factor classification of leader behaviors developed by Bowers and Seashore was utilized for this study. The four-factor theory was the result of an integrative effort attempting to bring together work done at Ohio State University and the University of Michigan. The four dimensions which were developed to comprise the basic structure of leadership were: support, interaction facilitation, goal emphasis, and work facilitation. This study designated these four dimensions as independent variables.

The population for this study included the 959 IGE/MUS-Es listed in the 1973-74 Multiunit School Directory published by the Wisconsin Research and Development Center for Cognitive Learning. Defining the population by the use of the 1973-74 directory meant that all schools included in the study would be in at least their third year of IGE implementation. All schools participating in the study were generally comparable because minimal participation criteria were set. The minimal participation criteria deemed acceptable for the study were those specified by the R & D Center as the criteria that a school must meet in order to qualify to be labeled IGE. In addition, the following specific requirements were also established:

1. The I & R units must have implemented the instructional programming model in reading for at least two years and in mathematics for at least one year.
2. The school must have an Instructional Improvement Committee meeting at least twice monthly.
3. The school staff must give its approval to participate in the study.

The defined study population consisted of all intermediate units in the 959 schools meeting the minimal participation criteria. A stratified random sampling procedure was used to select 41 schools which met the minimal criteria. Telephone calls were made to the principals of each school to seek their participation and to determine their suitability for inclusion in the study. An intermediate

unit within each of the suitable schools that agreed to participate was selected randomly. Students within each of the selected units were chosen randomly for the reading, mathematics, and self concept tests. (This was done for the purposes of the companion studies conducted by Bocian (1976), Feldman (1976), and Sigurdson (1976)). Researchers from the R & D Center traveled to each of the schools to administer the tests to students. The staff questionnaires were mailed to the schools two weeks prior to the researchers' visit and were collected on the day of the student testing.

The unit of analysis consisted of school mean scores calculated for all instruments utilized in the study. This was accomplished by the use of several computer programs developed by Dr. Donald McIsaac specifically for this study. Other standard computer programs were employed to obtain alpha reliability coefficients, Pearson product moment correlations, and to solve multiple regression equations.

The following null and alternative hypotheses were tested to determine the interrelationships of organizational structure, leader behavior, and job satisfaction:

The null hypotheses:

1. There is no relationship between organizational structure and job satisfaction.
 - a. There is no relationship between complexity and job satisfaction.
 - b. There is no relationship between formalization and job satisfaction.

- c. There is no relationship between stratification and job satisfaction.
 - d. There is no relationship between centralization and job satisfaction.
2. There is no relationship between leader behavior and job satisfaction.
- a. There is no relationship between leader support and job satisfaction.
 - b. There is no relationship between leader goal emphasis and job satisfaction.
 - c. There is no relationship between leader work facilitation and job satisfaction.
 - d. There is no relationship between leader interaction facilitation and job satisfaction.
3. The amount of variance in job satisfaction accounted for by the structural variables is equal to the amount of variance accounted for in job satisfaction by the leadership variables.

Findings and Conclusions

This section contains the findings derived from an analysis of the data used to test the hypotheses and the conclusions derived from these tests. The hypotheses were tested through the use of Pearson product-moment correlations and stepwise multiple regression analyses. The probability level for all tests of statistical significance was established at the .05 level.

Findings

The first two hypotheses were tested using Pearson product-moment correlations. The major findings were:

Hypothesis 1: There is no relationship between organizational structure and job satisfaction.

Finding: A statistically significant relationship was found between organizational structure and job satisfaction. The null hypothesis could therefore be rejected.

Hypothesis 1a: There is no relationship between complexity and job satisfaction.

Finding: A positive relationship was found between professional complexity and six of the job satisfaction scales (co-worker, career future, school identification, financial aspects, pupil relations, community relations) and total job satisfaction. A negative relationship was found between professional complexity and two of the job satisfaction scales (administration and working conditions). A positive relationship was found between building complexity and two job satisfaction scales (co-workers and financial aspects). A negative relationship was found between building complexity and seven of the job satisfaction scales (administration, career future, school identification, working conditions, pupil relations, community relations, and total job satisfaction). A positive relationship was

found between organizational complexity and three of the job satisfaction scales (co-workers, school identification, and financial aspects). A negative relationship was found between organizational complexity and six of the job satisfaction scales (administration, career future, working conditions, pupil relations, community relations and total job satisfaction). The null hypothesis for complexity and job satisfaction could not be rejected because of the twenty seven relationships between these two variables only two (pupil relations and building complexity; community relations and building complexity) were significant.

Hypothesis 1b: There is no relationship between formalization and job satisfaction.

Finding: A negative relationship was found between formalization and all of the job satisfaction scales as well as with total job satisfaction. The null hypothesis could be rejected because all the relationships were statistically significant except two (formalization and financial aspects; formalization and pupil relations).

Hypothesis 1c: There is no relationship between stratification and job satisfaction.

Finding: A negative relationship was found between stratification and all the job satisfaction scales as well as total job satisfaction. The null hypothesis could

therefore be rejected because all of the relationships were significant except two (stratification and financial aspects; stratification and pupil relations).

Hypothesis 1d: There is no relationship between centralization and job satisfaction.

Finding: No statistically significant relationship was found between extra-school centralization and job satisfaction, school-wide centralization and job satisfaction, and total centralization and job satisfaction. A significant relationship was found between unit-wide centralization and job satisfaction. The null hypothesis cannot be rejected because of the thirty-six relationships between centralization and job satisfaction only six were significant (unit wide centralization and administration, career future, school identification, working conditions, pupil relations, total job satisfaction).

Hypothesis 2: There is no relationship between leader behavior and job satisfaction.

Finding: A statistically significant relationship was found between leader behavior and job satisfaction. The null hypothesis could therefore be rejected.

Hypothesis 2a: There is no relationship between leader support and job satisfaction.

Finding: A statistically significant positive relationship was found between principal leader support and all of the

job satisfaction scales. No significant relationship was found between unit leader support and job satisfaction. The null hypothesis could be rejected because of the significant relationship found between principal leader support and job satisfaction.

Hypothesis 2b: There is no relationship between leader goal emphasis and job satisfaction.

Finding: A statistically significant positive relationship was found between principal leader goal emphasis and job satisfaction with the exception of one scale (pupil relations). No significant relationship was found between unit leader goal emphasis and job satisfaction. The null hypothesis could be rejected because of the significant relationships found between principal leader goal emphasis and job satisfaction.

Hypothesis 2c: There is no relationship between leader work facilitation and job satisfaction.

Finding: A significantly positive relationship was found between principal leader work facilitation and all the job satisfaction scales. No significant relationship was found between unit leader work facilitation and job satisfaction with the exception of one scale (community relations). The null hypothesis could be rejected because of the significant relationships found between principal leader work facilitation and job satisfaction.

Hypothesis 2d: There is no relationship between leader interaction facilitation and job satisfaction.

Finding: A significant positive relationship was found between principal leader interaction facilitation and job satisfaction with one exception (pupil relations). No significant relationship was found between unit leader interaction facilitation and job satisfaction. The null hypothesis could be rejected because of the significant relationships found between principal leader interaction facilitation and job satisfaction.

The third hypothesis was tested using nine measures of staff job satisfaction. The major findings obtained from this multiple regression analysis were:

Hypothesis 3: The amount of variance in job satisfaction accounted for by the structural variables is equal to the amount of variance in job satisfaction accounted for the leader behavior variables.

Finding: Scale 1 (administration)

In the regression equation for job satisfaction with administration, the leader behavior variables explained 88 percent of the variance in job satisfaction administration and the structural variables accounted for 43 percent of the variance. Formalization (.001 level) was the most influential structural variable while total principal leader behavior (.001 level) was the most influential leader behavior variable.

Scale 2 (co-workers)

Organizational structural variables accounted for 52 percent of the variance in job satisfaction co-workers, while 36 percent of the variance was accounted for by the leader behavior variables. Stratification (.001 level) was the most influential structural variable and principal interaction facilitation (.001 level) was the most influential leader behavior variable.

Scale 3 (career future)

The amount of variance explained by the structural variables was 46 percent. The amount of variance explained by the leader behavior variables was 58 percent. Formalization (.001 level) was the most influential structural variable. Principal support (.001 level) was the most influential leader behavior variable.

Scale 4 (school identification)

The amount of variance accounted for by the organizational structure variables was 44 percent and the leader behavior variables accounted for 56 percent. Stratification (.001 level) and centralization unit wide (.001 level) were the most influential structural variable. Total principal leadership (.001 level) was the most influential leader behavior variable.

Scale 5 (financial aspects)

Organizational structure variables accounted for 33 percent of the variance while the leader behavior variables accounted for 24 percent of the variance. Stratification (.058 level) and centralization school wide (.066 level) were the most influential structural variables. Total principal leadership (.007 level) was the most influential leader behavior variable.

Scale 6 (working conditions)

The amount of variance accounted for by the structural variables was 43 percent and the amount of variance accounted for by the leader behavior variables was 26 percent. Centralization unit wide (.002 level), formalization (.024 level) and centralization extra school (.049 level) were the most influential structural variables. Principal support (.001 level) was the most influential leader behavior variable.

Scale 7 (pupil relations)

Organizational structure variables accounted for 31 percent of the variance and the leader behavior variables accounted for 38 percent. Centralization unit wide (.018 level) and building complexity (.041 level) and unit leader interaction facilitation (.044 level) were the most influential leader behavior variables.

Scale 8 (community relations)

Organizational structure accounted for 38 percent of the variance and leader behavior accounted for 46 percent of the variance. Stratification (.021 level) and building complexity (.036 level) were the most influential structural variables. Total principal leadership (.002 level) and unit leader work facilitation (.014 level) were the most influential leader behavior variables.

Scale 9 (total job satisfaction)

The amount of variance accounted for by the structural variables was 48 percent and leader behavior accounted for 62 percent of the variance. Formalization (.001 level) and centralization unit wide (.027 level) were the most influential structural variables. Total principal leadership (.001 level) was the most influential leader behavior variable.

The null hypothesis could be rejected because the leader behavior variables accounted for more variance in six of the job satisfaction scales (administration, career future, school identification, pupil relations, community relations, and total job satisfaction) while the structural variables accounted for more variance in three of the job satisfaction scales (co-workers, financial aspects, and working conditions).

In summary, all of the three major null hypotheses of the study, could be rejected on the basis of the correlational and regression analyses.

Conclusions

The following conclusions are drawn concerning staff job satisfaction based on the findings of the study:

Conclusion #1: There are relationships between organizational structure and job satisfaction.

- a. There is no significant relationship between complexity and job satisfaction. The direction of the relationship was mixed.
- b. There is a significant negative relationship between formalization and job satisfaction.
- c. There is a significant negative relationship between stratification and job satisfaction.
- d. There is no significant relationship between centralization and job satisfaction. However, the relationship found was in the predicted direction.

Organizational structure involves the particular arrangements among parts; the relatively enduring patterns of relationships. An emphasis on structure involves how these parts are put together to form a coherent whole and how the resulting structure affects the types of actions and behaviors that take place in the organization. Many of these relationships are described in Hage's axiomatic theory which attempts to order the structural and functional

relationships within organizations. Central to the axiomatic theory are seven two-variable propositions. The propositions are based on eight organizational variables, four of which are means or inputs (complexity, formalization, stratification, and centralization) and are considered as variables in an organization's structure; and four of which are outputs or ends (adaptiveness, production, efficiency, and job satisfaction) and are considered as variables representing performance or functioning variables. Hage assumed that these means and ends form a system of interrelated variables.

The conclusion that organizational structure and job satisfaction are related was supported by the findings of the present study. The basis for this conclusion was the strong relationships found between job satisfaction and formalization and stratification and the direction of the relationships found between job satisfaction and complexity and centralization. It was predicted that the structural variables of formalization and stratification would be significantly and negatively related to job satisfaction. The findings completely supported this prediction. It was also predicted that complexity would be related significantly and positively to job satisfaction, and that centralization would be related significantly and negatively to job satisfaction. The findings do not entirely support these predictions. The findings concerning complexity showed both positive and negative correlations when only positive relationships were predicted. Explanations for these mixed findings are presented in the following pages. With regard to the relationship between

centralization and job satisfaction, only six of the thirty-six correlations were significant but twenty-nine of the thirty-six correlations were in the predicted direction.

The construct of complexity was conceptualized by Hage as the degree of specialization in an organization. The three indicators used by Hage to operationalize this construct were used in the present study: the number of occupational specialties, the level of professional activity, and the amount of professional training. The occupational specialties indicator was used to derive a building complexity score and the professional activity and training indicators were used to derive a professional complexity score. The two scores were then combined to provide a measure of organizational complexity. Combining of the two scores had some influence on the results, as is evident when building complexity is examined singly: two of the job satisfaction scales (pupil relations and community relations) were significantly related. The three indicators of complexity may be measuring such different facets of the construct that combining them results in the loss of important specific data.

Of greater concern, however, are the negative relationships found between building complexity and job satisfaction. These were opposite to the direction specified in the literature and predicted a priori. One reason for this occurrence may be the fact that elementary schools, on the whole, have very few specialties represented on the full-time staff. Generally, the full-time ICE school staff consists of the specialties of administrator, unit leader,

unit teacher, and paraprofessional. Other workers with specialities such as reading specialist, hearing and speech specialist, counselor, psychologist, and social worker especially spend only a small amount of time in the school and this time typically is spent in dealing with a very few students who have particular needs. These specialists are not functioning members of either the total school staff or the staff of any particular unit. It may be that this lack of contact with the persons performing other specialities causes job dissatisfaction. Several other possible explanations could account for negative relationships may be advanced. The ICE philosophy and orientation advocates that the I & R units be responsible for the academic, social and emotional needs of their students. If the unit teachers have internalized this orientation of "think kids", then it is possible that attempts by other specialists to meet the needs of the students is viewed negatively by the teachers. They might view the specialists as interfering, upsetting the status quo, or advocating differing and unacceptable approaches to students. This view is supported by the two scales of job satisfaction with which there was a significant negative relationship (pupil relations and community relations). These findings lend some credence to the above explanation of the findings because the other people who might most often deal with students and the community are persons who occupy speciality positions. Another possibility resides in the structure of the I & R units. ICE advocates that each unit have an aide. Many ICE schools have tried to increase the efficacy of their

community relations program by having many volunteer aides work in the school. As the number of these aides or volunteers increase, it may be that the job satisfaction of the staff decreases.

Teachers may feel that it takes a lot of time and trouble to deal with and prepare for these aides and volunteers. They could also feel that the time they spend with aides and volunteers interferes with the proper conduct of these professional duties. If any of these views are correct, then perhaps teacher attitudes toward certain specialists affects the relationship between complexity and job satisfaction and could partially explain the relationships found in this study. This seems to be a more reasonable explanation than concluding that the number of specialities is an inappropriate measure of complexity for ICE elementary schools.

While the relationships between professional complexity and job satisfaction were not significant, seven of the nine correlations were in the predicted direction. This finding indicates that job satisfaction and professional complexity are positively related and the consistency of the relation is important. The failure to find a statistically significant relationship may be due to the fact that the two indicators, level of training and amount of professional activity, were combined. This would be of particular importance if it could be shown that one indicator was a stronger measure of professional complexity than the other.

Centralization was conceptualized by Hage at the degree to which power to make decisions about the allocation of resources is

distributed in an organization. This construct was operationalized in the present study through the use of the Decision Involvement Analysis Instrument developed by Wright (1976). The real decision structure of the elementary school was measured, i.e., the individual or group perceived as presently responsible for making potent decisions. The potent decisions were divided into the three categories of: (1) Extra School, (2) School-wide, and (3) Unit wide. A score was established for each category and a score was established for an overall level of centralization.

Although no statistically significant relationship existed between centralization and job satisfaction, the direction of the relationship was as predicted. The results of this study support the contention that staff job satisfaction decreases (becomes negative) as potent decisions are made higher in the organization. This can be seen in the following results: (1) seven of the nine correlations of the Extra School scale were negative, (2) three of the nine correlations of the School-Wide scale were negative, and (3) none of the nine correlations of the Unit-Wide scale were negative and six of them were statistically significant. This means that the lower in the organization the potent decisions were made, and the more persons involved in making them, the greater the staff job satisfaction. The lack of statistical significance reflected in the correlations could be due to the fact that teacher job satisfaction may be independent of many decisions made in the extra-school and school-wide areas as long as these decisions are being

made and do not hinder the teacher. This explanation is in accord with the contention that decisions should be made at the level where they are to be operationalized and is supported by the significant relationship found in the unit wide scale. If teachers perceive that these potent decisions do not directly affect their professional responsibilities, and that these decisions are being operationalized in a more or less satisfactory manner, they may not be concerned about them and hence their perceptions concerning these decisions do not relate to their perceptions of job satisfaction. Alternatively, it may be that teachers have accepted the idea that they should be involved in all decisions, or that teachers find it takes too much time and trouble to be involved in decisions that do not directly affect their teaching.

In summary, the results of this study support the conclusion that there are relationships between organizational structure and job satisfaction. The direction of the majority of the relationships specified in the axiomatic theory were also supported by the results of the study. Structure is indeed related to the organizational outcome of job satisfaction. Furthermore, the axiomatic theory of organizations provided a useful framework for analyzing structural and functional relationships within IGE elementary schools.

Conclusion #2: There were relationships between leader behavior and job satisfaction.

- a. There was a statistically significant positive relationship between principal leader behavior

(support, goal emphasis, work facilitation, and interaction facilitation) and job satisfaction.

- b. There was no statistically significant relationship between unit leader behavior (support, goal emphasis, work facilitation, and interaction facilitation) and job satisfaction. The direction of the relationship was mixed.

Leadership appears to be comprised of aggregates of separate behaviors which may be grouped in a variety of ways and are believed to be instrumental in controlling the behavior of others. Bowers and Seashore developed a four-factor classification of leader behavior which may be related to organizational outcomes. The four dimensions which comprised their basic structure of leadership were: support, goal emphasis, work facilitation, and interaction facilitation. Bowers and Seashore concluded from their research that leadership which provides more support, goal emphasis, work facilitation and interaction facilitation was associated strongly with greater member satisfaction.

The conclusion that leader behavior and job satisfaction are related was supported by the findings of the present study. The basis for this conclusion was found in the strong relationship between job satisfaction and principal leader behavior. It was predicted that these two variables would be significantly and positively associated. Of the 45 relationships between these two variables, only two were not significant (goal emphasis and pupil relations;

interaction facilitation and pupil relations). However, even these two relationships were in the specified direction.

It was also predicted that job satisfaction and unit leader behavior would be significantly and positively related to job satisfaction. The findings did not entirely support this prediction. Unit leader behavior showed both positive and negative correlations with job satisfaction when only positive relationships were predicted. Twenty-one of the forty-five relationships were positive with most of these occurring in the support, interaction facilitation, and total leadership scales. Goal emphasis and work facilitation contained the most negative relationships. Several factors could be involved in the occurrence of these reversals. First, the leader behavior measure was designed to measure the leadership of the person designated as the unit leader. It was assumed that the person identified as occupying this position would, in fact, be the leader. There are two possible explanations for the unpredicted results obtained. One is that the unit leader was not, in fact, the leader of the unit; the other is that any leader behaviors exhibited by the unit leader were viewed negatively by the remaining unit members.

With regard to the first possibility, in many IGE schools the unit leader is either selected or appointed by the principal or is rotated among the members of the unit. If the unit leader is selected or appointed by the principal, there is no assurance that the criteria used by the principal is the basis for the selection actually meet the

leadership requirements and needs that exist within the unit. One person may be designated to fill the position but another person may actually engage in leader behaviors. If a rotational system is used, no two members of the unit are likely to possess the same leadership skills. Therefore, persons other than the unit leader may be engaging in leader behaviors. This line of reasoning is supported by the fact that seven (of a possible nine) negative correlations were found in the unit leader goal emphasis scale and that all of the correlations found in the unit leader work facilitation scale were negative.

The second possibility--that any leadership exhibited by the unit leader is viewed in a negative light by other unit members--is intriguing. Recall that in most IGE schools the position of the unit leader carries with it only a title. The unit leader seldom receives either extra pay or released time to perform leadership functions. Under these circumstances it may well be that teachers do not view this as a leadership position since there are no differentiations between unit teachers and the unit leader other than a title. If the unit leader attempts to engage in leader behaviors when the position is not viewed as a leadership position, this could result in negative job satisfaction on the part of teachers. This line of reasoning is also supported by the results found in the areas of goal emphasis and work facilitation. It is further supported by the one statistically significant relationship found in the correlations. A significant negative relationship appeared between unit leader work facilitation and job satisfaction regarding community relations. The person who most often represents the unit to the

public is the unit leader. If the unit leader engages in this type of leader behavior, and if the unit members do not see this as a function of that person because they do not recognize the position of unit leader as a leadership position, then job dissatisfaction could result. This finding lends support to the line of reasoning that the unit leader position is not viewed by unit teachers as a leadership position, and therefore they feel the unit leader should not engage in leadership behaviors.

In summary, it was concluded that job satisfaction and leader behavior were related. The strength of the relationship lies with the association between principal leader behavior and job satisfaction and the fact that of the total 90 correlations between the two variables, 66 were in the predicted direction. This established relationship lends support to the four-factor theory of leadership and shows that it provides a useful framework for the study of leader behavior in IGE elementary schools.

Conclusion #3: Organizational structure and leader behavior did not account for an equal amount of variance in job satisfaction.

- a. Leader behavior accounted for more of the variance in job satisfaction than did organizational structure.
- b. Total principal leadership, principal support, principal interaction facilitation, unit leader interaction facilitation and unit leader work facilitation were the most influential leader

behavior variables in accounting for variance in job satisfaction.

- c. Formalization, stratification, centralization unit-wide, building complexity and centralization extra-school were the most influential organizational structure variables in accounting for variance in job satisfaction.

One of the purposes of this study was to measure organizational structure and leader behavior simultaneously so that an assessment could be made of the relative strength of these two classes of variables in explaining an outcome. This is important for two reasons: (1) the simultaneous measurement of two classes of variables allows them to be controlled as competing hypotheses, and (2) it can be determined whether or not different classes of variables are more important than others in explaining specific outcomes.

It was predicted that organizational structure and leader behavior would not account for an equal amount of variance in job satisfaction. The findings obtained from this study supported this prediction. It was found that leader behavior accounted for more of the variance in job satisfaction than did organizational structure. A review of the literature gave no indication which set of variables would have the greatest impact on job satisfaction. The ICE literature stresses that if a school is to function successfully in a multiunit administrative arrangement, changes must be made in both the organizational structure and the leader behaviors. No evidence

has yet been forthcoming as to which of these changes are most crucial and at what points in time they may become crucial. This study has provided evidence that, at least with this sample of ICE schools, leader behavior impacts more strongly on teacher job satisfaction than does organizational structure. Several reasons may be advanced for these results. Some of these reasons arise due to the sampling procedure and selection criteria used in the study, other emerged from observations made during the visits to the schools. In order for a school to be included in the sample, it was necessary that the school had been in ICE for at least 3 years, and that the principal and unit leader had been in their respective positions for at least one year. It was reasoned that if structure and leadership were to be measured, there had to have been time for each of these attributes to have developed. Concerning these criteria, most school personnel felt that they were still implementing ICE even after three years and that they were not yet functioning totally with an ICE/MUS-E structure. It also became apparent upon school visitation that a great majority of the principals had been at their school for more than three years. The principal had a longer period of time to establish leadership with the staff than the time available for the structure of ICE/MUS-E to be established and internalized by the staff. Thus, the leadership of the principal was more established than was the ICE/MUS-E organizational structure. This line of reasoning is supported by the correlations found in the study. The scales used to measure the leader behavior of the principals were strongly and consistently related to job satisfaction.

The scales used to measure organizational structure were found to be related to job satisfaction but the directive was not consistent. If one examines the variance within each of these separate measures, then it will be found that the leader behavior measures exhibited little variance but the structure measures displayed considerable variance. This indicates that the perceptions of the respondents on the leader behavior measures were more stable than the perceptions of the respondents on the structure measures. This provides an indicator that the respondents viewed leadership to be more stable than structure. Since most people are more satisfied with stability than with instability, it is likely that more variance would be accounted for in job satisfaction with leadership that was viewed as stable (or at least known) than by an organizational structure that is viewed as not as less stable (or still evolving).

Several factors could contribute to the view that the structure was not as stable as the leadership. In a great majority of the schools contacted during the sample selection procedure and from data obtained during visits to the schools it was apparent that many of the schools had either just faced or were about to face a budget crises or union negotiations. This potentially disruptive influence was affecting the operation of the schools. In other communities, pressure from parents for a "back to basics" approach was being felt within the schools. In other words, turbulence and uncertainty in the external environment was impacting on the internal operations of the schools. Research has established that certainty or uncertainty in the environment is linked to organizational structure. Under

uncertain or turbulent conditions, leadership of the principal could be a buffering agent for the stresses on the organization and therefore enhance the job satisfaction of staff members. It may be that under some conditions leadership is more important to job satisfaction and under other conditions structure is more important. It could be that environment is a key factor in both structure and leadership. The findings of this study support the conclusion that leader behavior accounts for more variance in job satisfaction than does organizational structure.

The population of ICE schools from which the sample was drawn limits the conclusions that may be drawn from this study. The conclusions reached are also restricted by the limitations of the self report instrumentation utilized in the measuring of the study's constructs. The generalizability of the results obtained from this study are constrained by the degree to which the reader can accept the underlying theoretical framework and the underlying assumptions of the statistical procedures employed.

Implications for Theory, Practice, and Research

This concluding section includes a discussion of the implications for theory and for practice in ICE schools, as well as providing suggestions for further research.

Implications for Theory

1. The conclusions from this study indicate that the axiomatic theory of organizations is a useful and appropriate approach

in analyzing the structural and functional relationships within IGE elementary schools.

2. The study has contributed to theoretical thinking concerning organizations by providing supportive evidence that structural variables are indeed related to a specific outcome variable. Evidence supportive of this linkage is important.
3. It was found in this study that structural variables which have been established in research on bureaucracies and industrial organizations can be generalized to professional organizations such as IGE elementary schools.
4. The conclusions from this study indicate that the four-factor theory of leadership is a useful and appropriate approach in analyzing leader behaviors within IGE elementary schools.
5. Contribution to theoretical thinking concerning leadership has been established by providing supportive evidence that there is a linkage between leader behaviors and the organizational outcome of job satisfaction.
6. This research has provided supportive evidence that two different variables of classes have different impacts on specific organizational outcomes.
7. A contribution to the theory surrounding the variable of job satisfaction is seen in the use and establishment of this variable as an important construct, in and of itself, rather than having it associated with the variable productivity.
8. A contribution has been made to the theorists developing the concept of the IGE/MUS-E by providing evidence of relationships

that exist in practicing IGE schools so that this can aid in better prediction and control of organizational behavior.

Implications for Practice

School personnel at all levels are desirous of improving the functioning of the educational system. In practical terms, several recommendations can be offered to educators:

1. It is important for school personnel to be aware of the fact that in schools it sometimes happens that informal and subtle rewards can be and are used to create an informal status system. If these rewards are distributed only to a select number of persons, stratification will increase and job satisfaction will decrease. Administrators, particularly, should be aware of what staff members consider to be rewards and then see that no one staff member or group of staff members receive more of these rewards than others.
2. Educators are members of a profession. As such, they have internalized certain norms and ethics and there appears to be little need for highly codified job descriptions. It is suggested, therefore, that before any specific curriculum and teaching guides are written and distributed within a school, administration must be sure that these published norms and expectations are not counter to or redundant with regard to the internalized professional norms because as formalization increases, job satisfaction decreases.

3. The degree of specialization within an IGE/MUS-E school seems to pose particular problems. The negative results from this particular variable indicates that it is especially important to find some way of integrating the speciality teachers into the daily operation of the school and particularly the I & R units. It is further suggested that each school have more full time personnel in the speciality areas such as elementary counselors, art, and music teachers. This would introduce a more diversified knowledge base from which to provide instructional programs for children and would also reduce any resentment factor that might occur from not understanding other person's jobs and from feelings of interference from people not there on a full-time basis. If full-time personnel are not possible, then orientation programs could be conducted to reduce any friction that might be occurring. Along these lines, it would behoove the administrator considering a full fledged volunteer or aide program to gather facts concerning the impact on actual teacher time before moving into such a program. It might seem that such programs would create better community relations, but it might do so to the detriment of teacher job satisfaction.
4. The role of staff members in the decision making process is an important consideration for any school. It should be determined for each individual school staff which decisions are the most important to them and then to make sure that, if possible, teachers participate in these decisions. If the teachers are making and participating in decisions they deem important, then

their job satisfaction will be increased. It is important for administrators to be aware of and utilize the knowledge that decisions are best made at the level at which they are to be implemented. It could be that teachers feel they "ought" to participate in all decisions when it would be more functional and satisfying to be involved in those decisions that directly affect their work and are the most important to them. Decisions that most directly affect the job should be decentralized so that job satisfaction will increase.

5. The leadership behavior of the principal is extremely important. What is apparent is the fact that teachers have more job satisfaction when the principal leads. The administrator needs to know and utilize the fact that leadership is composed of an aggregate of several behaviors and that if the administrator engages in all of these behaviors at appropriate times, then job satisfaction for staff members will increase. It is strongly suggested that administrators learn what these behaviors are and attempt to use them. Attendance at leadership conferences and workshops would provide a safe, neutral environment for learning these behaviors if the administrator is not already comfortable with their use. It would be advisable for districts to spend some effort, time, and money to insure that their administrators are trained in leadership techniques and then provide support to and among the administrators in the district to help them to continue to conduct themselves in a manner that would enhance their own leadership behaviors.

6. The selection of the unit leader seems to be an extremely critical matter in increasing unit members' job satisfaction. The negative results found in the unit leader's leader behavior and teacher job satisfaction shows that something needs to be done in this area. One thing that would be of great help would be creating a real leadership position by seeing that the position is in reality differentiated from the teaching position. One way to do this is to make sure that the unit leader is given released time in order for the person to be able to engage in leader behaviors. Another way is to increase the unit leader's salary so that the person is truly compensated for the duties and responsibilities that adhere to the position. The person must be able to function as a leader and must be compensated so that the position is viewed as a true leadership position. Another consideration is the criteria set for the selection of the person for the position. These criteria must reflect the needs and expectations of the unit. The qualities that a principal might want in a unit leader might not be the same qualities that the unit members want. It is suggested that unit leaders be trained in leader behaviors and techniques. Unit leaders could attend either inservice programs developed by the district or leadership conferences that are held elsewhere. This training is often neglected by districts, but if they expect the unit leader position to be a viable one and the person in the position to be a good leader, then they must provide the resources necessary to bring

this about. The job satisfaction of staff members would increase if the leader behaviors and the position itself were given adequate training and differentiation.

7. It is strongly recommended that administrators recognize the fact that job satisfaction is extremely important for staff members. There were six categories of job satisfaction indicated by this study that the leader behaviors of administrators could influence. It is recommended that administrators learn what facets are included in job satisfaction and what they as leaders can do to influence these facets. It is recommended that in the training programs for administrators, universities teach leadership behaviors and the impact that these will have so that practicing administrators may not inadvertently realize unwanted outcomes from any acts of leadership that they might perform. This recommendation is made also regarding organizational structure. Administrators must realize and be able to predict and control what impact changes in structural variables will have on their schools and the job satisfaction of their staff members.

Implications for Future Research

Several questions and areas for future research have arisen as a result of this study. The following appear to warrant further consideration and investigation:

1. Would the attitudes of teachers toward the number of specialities and how they operate within the school give insight into the

negative effects found between building complexity and job satisfaction? What is there about the organization of these specialities within elementary schools that cause the results in this organization to differ from those obtained in other organizations in regard to this construct?

2. Which of the three indicators of complexity is the strongest measure of the construct? Is it necessary to have all three or can one be as effectively used as an indicator of all three?
3. Is decentralization dysfunctional to the organization and the functioning and effectiveness of the units? What are the different types of decision structures utilized in the unit and do these have any effect on organizational outcomes, particularly job satisfaction?
4. Does the selection procedure utilized in selecting the unit leader have any relationship to the leader behaviors in which the unit leader may engage? Does the selection procedure affect the way the unit functions? Is the position of unit leader viewed as a legitimate leadership position and what affect does this have on the leader behaviors of the unit leader and the functioning of the unit? How is leadership actually distributed in the unit?
5. What effect does a certain or uncertain environment have on the extent to which structure and leadership affects job satisfaction? Is there a direct linkage between environment and job satisfaction? Does environment affect the type of leader

behavior in which the principal engages?

6. Would the importance of structure or leadership vary depending upon the year or stage of implementation of ICE? Is time an important factor in either of these variables and would a longitudinal or cross-lagged approach provide these answers?
7. Do leadership and structure affect other organizational outcomes in the same manner they appear to affect job satisfaction? Which is most important in accounting for the greater amount of variance in other organizational outcomes?
8. What is the affect of job satisfaction on the effectiveness of the unit and on student outcomes such as student achievement or student self concept?
9. Is it possible to establish a direct link between either structure or leadership and student outcomes without using intervening variables such as job satisfaction or unit effectiveness?

In conclusion, it is hoped that this study has provided insights into the organizational operations of the ICE multiunit school and how these operations relate to organizational outcomes. It is also hoped that insights for future endeavors have been provided so that better understandings of schools can be achieved.

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APPENDIX A

PROPOSITIONS AND COROLLARIES OF HAGE'S
AXIOMATIC THEORY OF ORGANIZATION

MAJOR PROPOSITIONS AND COROLLARIES OF THE AXIOMATIC THEORY

Major Propositions

- I. The higher the centralization, the higher the production.
- II. The higher the formalization, the higher the efficiency.
- III. The higher the centralization, the higher the formalization.
- IV. The higher the stratification, the lower the job satisfaction.
- V. The higher the stratification, the higher the production.
- VI. The higher the stratification, the lower the adaptiveness.
- VII. The higher the complexity, the lower the centralization.

Derived Corollaries

1. The higher the formalization, the higher the production.
2. The higher the centralization, the higher the efficiency.
3. The lower the job satisfaction, the higher the production.
4. The lower the job satisfaction, the lower the adaptiveness.
5. The higher the production, the lower the adaptiveness.
6. The higher the complexity, the lower the production.
7. The higher the complexity, the higher the efficiency.
8. The higher the production, the higher the efficiency.
9. The higher the stratification, the higher the formalization.
10. The higher the efficiency, the lower the complexity.
11. The higher the centralization, the lower the job satisfaction.
12. The higher the centralization, the lower the adaptiveness.
13. The higher the stratification, the lower the complexity.
14. The higher the complexity, the higher the job satisfaction.
15. The lower the complexity, the lower the adaptiveness.
16. The higher the stratification, the higher the efficiency.
17. The higher the efficiency, the lower the job satisfaction.
18. The higher the efficiency, the lower the adaptiveness.
19. The higher the centralization, the higher the stratification.
20. The higher the formalization, the lower the job satisfaction.
21. The higher the formalization, the lower the adaptiveness.

Limits Proposition

- VIII. Production imposes limits on complexity, centralization, formalization, stratification, adaptiveness, efficiency, and job satisfaction.

APPENDIX B
TELEPHONE SURVEY

		TELEPHONE SURVEY
CODE: C - Cities, 200,000 + O - Others (Under 200,000) 1st # - Random Order 2nd # - Directory Number		Name of School: _____ Location: _____ Phone: _____ Person Contacted: _____ Researcher: _____ Date: _____
<u>CHECK APPROPRIATE BOX(ES):</u> ☐ Yes, _____ ☐ Maybe, _____ ☐ No, _____ ☐ Call back, _____		Follow up letter sent on: _____ _____ _____ Confirmation call back: _____ _____ Inconvenient time for visitation: _____ _____
		Comments:

Telephone Interview to Identify 40 Schools
as Subjects for the "R-3 Correlational Studies"
and the "Evaluation of IGE vs. Non-IGE Study"

Comments

1a. Do you still consider your school an IGE school?

a) Yes

b) We're working on it

c) No. Would you mind telling us why not? _____

1b. How many students are in your school? _____

We'd like to ask about your school's organization:

2. What grade level equivalents are included in your school? _____

3a. Is your school organized into units, teams, or learning communities?

a) Yes (this response includes "partially," "some," or "all" answers)

b) No (no units at all)

3b. How many units (learning communities) are in your school? _____

- 3c. Describe the unit (learning community) structure (excluding student teachers, interns, and aides).
For each unit (learning community) give:

	1	2	3	4	5	6	7	8
Unit Name								
Number of teachers assigned to the unit full time (including unit leader)								
Number of pupils (as exact as you can give it)								
Grade level equivalents								
Does the unit staff meet at least once weekly?	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N

COMMENTS:

3d. Does this description account for all pupils in the school?

a) Yes

b) No. If no, explain who wasn't included in these units:

-
- 1) kindergarten
 - 2) special education pupils
 - 3) other "regular" pupils (i.e., not special education)

4a. Do you have unit leaders (or learning community leaders) assigned for a year or more to each unit (learning community)?

a) Yes, for each unit (learning community)

b) Yes, for some units (learning communities); not for others

c) No, none at all

4b. Does your school have an Instructional Improvement Committee (IIC) or a Program Improvement Council (PIC)?

a) Yes

b) No

c) Don't know; if c is chosen, ask:

Do you meet regularly with the unit leaders (learning community leaders)?

1) Yes

2) No

4c. If yes, how many people are the regular members of this group? _____

3d. Does this include the principal and all unit leaders (learning community leaders)?

a) Yes

b) No

4e. How often does the IIC (or PIC) meet? _____

a) once a semester

b) once a month

c) twice a month (every two weeks)

d) once a week

5. Do you participate in activities with other ICE schools at least once a year? These could be schools within your district (such as in a Systemwide Program Committee [SPC]) or schools outside your district (such as a League, Network, PACT, or HUB).

a) Yes

b) No

Now I'd like information about your school's instructional program in reading, and math. First, we'll talk about reading. Generally, we're looking for a sequence in which your teachers identify reading objectives for the students in their unit, preassess for those objectives, then group students according to which objectives they need to master, instruct on those objectives, then test again, and regroup.

6a. Have you done this entire process for reading in your whole school?

a) Yes

b) No, explain which students are excluded _____

6b. Have you done it for two years or more (at least since October, 1973)?

a) Yes

b) No

(Refer to Organizational chart, and say "As you know we are interested in collecting data in one intermediate unit. I'd like more specific information about units _____, _____, and _____." (the intermediate units)

7a. Are any of the unit leaders in these intermediate units new to their units as of this September ('75)?

a) Yes, in unit(s) _____, _____, _____, (discount those units)

b) No

7b. In any of these (remaining) units are more than half of the teachers new to the unit this September?

a) Yes, in unit(s) _____, _____, _____.

b) No

In any of these (remaining intermediate) units, we are looking for that same instruction sequence in relation to mathematics. That is, math objectives are set for the students in the unit, there is preassessment, grouping for instruction, postassessment, and regrouping.

Comments

7c. Have these units done this entire process in math for at least one year? (i.e., since September, '74)

- a) Yes, in all units
- b) No, only in units _____, and _____
- c) No, not in any units

7d. Have the majority of students in this (these) unit(s) had this instructional sequence in math last year? (either in the unit they are presently in or in another unit?) Explain.

- a) Yes, for unit(s) _____
- b) No

If more than one intermediate unit is left, randomly choose intermediate unit for study, and solicit participation of the randomly selected unit. If they seem at all interested, ask:

8. Are there non-IGE schools in your district?

- a) Yes, is so approximately how many? _____
- b) No
- c) I don't know

APPENDIX C
INITIAL INFORMATION LETTER



the
Wisconsin
Research and Development Center
for Cognitive
Learning

189

The University of Wisconsin - 1025 West Johnson Street - Madison, Wisconsin 53706 - (608)262 - 4901

Dear

Thank you for expressing an interest in our study. Listed below are some of the details concerning the research project:

1. This is a national study involving 40 schools in ICE. One intermediate unit/team from each school will be participating. Each school and each unit have been chosen randomly.
2. A researcher from the R & D Center will be visiting the intermediate unit/team from the participating schools to collect data during the months of January and February.
3. The principal and the selected team members will receive indepth questionnaires in advance of the school visits. A packet with instruments and instructions for the principal, team leader, and teachers will be sent to the school prior to the visitation.
4. During the visit, the researcher, in cooperation with the unit teachers will administer a standardized self concept survey to one third of the students in the unit, a mathematics standardized test to the second third of the unit, and a standardized reading test to the final third of the students in the unit.

In addition, the researcher will request that the staff in that unit respond to a Unit/Team Operations Questionnaire. This instrument investigates the degree (as perceived by the unit teachers) to which the unit, team or learning community accomplishes particular tasks which have been identified as those belonging to the teaching unit or team. This measure we call an "effectiveness" measure.

Page 2

5. The purpose of this research is twofold: (a) We will relate the "effectiveness" of the unit to student self concept and achievement. The question that arises is: "Is there a positive correlation between team or unit effectiveness and student self concept and achievement?" We feel that in addition to being of value to the R & D Center, the answer to this question would be of great interest to you as you develop and refine your school programs. (b) We will be looking at the factors (organizational structure and leadership) that contribute most strongly to teacher satisfaction. This will be determined by the instrumentation that will be mailed to the unit teachers and principal prior to the school visitation.
6. (a) We will send self concept and achievement profiles to all participating units/teams as soon as the publisher sends them to us--at no cost to the school.
(b) We will send technical reports of the research as soon as the R & D Center makes them available--again at no cost to the school.
(c) No schools or students will be identified in any reports.
7. Specific details on procedures will be sent to participating schools.
8. For your interest, additional R & D research, presently in the planning stage, will collect district cost data and will gather comparative school data on non-IGE schools.

Participation in a study of this scope requires time and effort on the part of school staff and students. It is our sincere belief that only with answers to questions such as have been posed can our educational systems be advanced.

We thank you for your interest, and we plan on contacting you by telephone in a few days to discuss this matter further.

Sincerely,

R & D Research Team
Barbara Bocian
Diana Mendenhall
Conrad Sigurdson

Principal Investigators
Dr. Richard A. Rossmiller
Dr. James M. Lipham

APPENDIX D

R-3 RESEARCH PROJECT GENERAL INFORMATION



the
Wisconsin
Research and Development Center
for Cognitive
Learning

the University of Wisconsin • 1025 West Johnson Street • Madison, Wisconsin 53706 • (608)262-4901

1975-76

R-3 Research Project

General Information

1. This is a national study involving 40 ICE schools. One intermediate unit/team from each school will be participating. Each school and each unit have been chosen randomly.
2. One or two researchers from the R and D Center will be visiting the intermediate unit/team during one school day to collect data during the month of January or February.
3. The principal and the selected team members will receive indepth questionnaires in advance of the school visits. A packet with instruments and instructions for the principal, team leader, and teachers will be sent to the school prior to the visitation. The instruments need not be filled out in one sitting. You will have a period of at least 2 weeks to complete them. Contained in this packet will be the following instruments:
 - a. Principal Instruments (Total Time [#1 & 2] 25-30 minutes)
 - 1) Background Information and Organizational Structure Survey (Form P)
The purpose of this instrument is to obtain background data and to determine the nature of the organizational structure in ICE schools. It requires approximately 30 minutes to complete.
 - 2) Time Allocation of Instructional Personnel
The purpose of this instrument is to obtain information about the utilization of time by staff members in I & R units. It requires approximately 15 minutes to complete.
 - 3) School Expenditure Data Form
The purpose of this instrument is to provide information about the major direct and indirect costs involved in the operation of an ICE school.

b. Unit Leader Instruments (Total Time 1 1/2-2 hours)

- 1) Background Information and Organizational Structure Survey (Form UL)
The purpose of this instrument is to obtain background data and to determine the nature of the organizational structure in ICE schools. It requires approximately 20 minutes to complete.
- 2) Decision Involvement Analysis
The purpose of this instrument is to determine the nature of involvement in the decision-making process in ICE schools. It requires approximately 15 minutes to complete.
- 3) Principal Leadership Assessment
The purpose of this instrument is to determine the nature of the principal's leadership style. It requires approximately 10 minutes to complete.
- 4) Job Satisfaction Survey
The purpose of this instrument is to determine the extent of satisfaction with various aspects of the job in ICE schools. It requires approximately 30 minutes to complete.
- 5) Time Allocation of Instructional Personnel
The purpose of this instrument is to obtain information about the utilization of time by staff members in I & R units. It requires approximately 15 minutes to complete.
- *6) Unit/Team Operations Questionnaire (Effectiveness Measure)
The purpose of this instrument is to investigate the degree (as perceived by the teachers) to which the team/unit accomplishes particular tasks which have been identified as belonging to the teaching team/unit. It requires approximately 30 minutes to complete.

c. Unit Teacher Instruments (Total Time 2-2 1/2 hours)

- 1) Background Information and Organizational Structure Survey (Form T)
The purpose of this instrument is to obtain background data and to determine the nature of the organizational structure in ICE schools. It requires approximately 20 minutes to complete.
- 2) Decision Involvement Analysis
The purpose of this instrument is to determine the nature of involvement in the decision-making process in ICE schools. It requires approximately 15 minutes to complete.

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- 3) Unit Leader Leadership Assessment
The purpose of this instrument is to determine the nature of the unit leader's leadership style. It requires approximately 10 minutes to complete.
 - 4) Principal Leadership Assessment
The purpose of this instrument is to determine the nature of the principal's leadership style. It requires approximately 10 minutes to complete.
 - 5) Job Satisfaction Survey
The purpose of this instrument is to determine the extent of satisfaction with various aspects of the job in ICE schools. It requires approximately 30 minutes to complete.
 - 6) Time Allocation of Instructional Personnel
The purpose of this instrument is to obtain information about the utilization of time by staff members in I & R units. It requires approximately 15 minutes to complete.
 - *7) Unit/Team Operations Questionnaire (Effectiveness Measure)
The purpose of this instrument is to investigate the degree (as perceived by the teachers) to which the team/unit accomplishes particular tasks which have been identified as belonging to the teaching team/unit. It requires 30 minutes to complete.
4. During the visit, the researcher(s), in cooperation with the unit teachers will administer a standardized self concept survey to one third of the students in the unit, a mathematics standardized test to the second third of the unit, and a standardized reading test to the final third of the students in the unit. Thus, no student will take more than one test. These standardized instruments are:
- *a. Intermediate Self Observation Scales (SOS) California Form (C)
This instrument takes approximately 25 minutes.
 - b. California Test of Basic Skills (Reading and Mathematics)-Form S
This instrument takes approximately 1 1/2 hours.
5. The purpose of this research is twofold:
- a. We will relate the "effectiveness" of the unit to student affective behavior and student achievement. The question that arises is: "Is there a positive correlation between team or unit effectiveness and student self concept*and achievement?" We feel that in addition to being of significant value to researchers at the R & D Center, the answer to this question would be of great interest to you as you promote, develop and refine your ICE school.

*Emphasis supplied for this study only

R-3 Research Project
General Information

Page 4

- b. We will be examining the factors (organizational structure and leadership) that contribute most strongly to teacher satisfaction.
- 6. a. We will send self concept and achievement profiles to each participating unit/team as soon as the publisher sends them to us--at no cost to the school.
- b. When the entire study of 40 ICE schools is complete, we will send technical reports of the research as soon as the R & D Center makes them available--again at no cost to the school.
- c. No schools or students will be identified in any reports.
- 7. Specific details on procedures will be sent to participating schools prior to visitation.
- 8. Additional R & D research, presently in the planning stage, will collect comparative school data on non-ICE schools.

R & D Research Team
Barbara Bocian
Robert Feldman
Diana Mendenhall
Conrad Sigurdson

Principal Investigators
Dr. James M. Lipham
Dr. Richard A. Rossmiller

Project Associate
Dr. Terry G. Geske

APPENDIX E
PROCEDURAL DETAILS

Name of School _____

Researcher(s) _____

PROCEDURAL DETAILSBEFORE ARRIVING AT YOUR SCHOOL:

- (1) a. In order that we may group and randomize children for testing purposes, please send me at your earliest convenience a list of the names of the children in unit/team _____, including year and month of birth, sex, and grade level equivalent.

SAMPLE: (1) Jane Aaron 65/3 - F - 5th
 (2) Larry Brown 64/3 - M - 6th

Send student list to: R-3 Research Project, Room 571
 1025 West Johnson Street
 Madison, Wisconsin 53706

- b. Please exclude from your list all children who participate in special education programs. They will not be included in this particular study.
- c. After we receive your list, we will randomly place the children into 3 testing groups and will then send you the lists of children to facilitate testing arrangements in your school. This list will accompany teacher and principal questionnaire packet.
- d. After receiving your list of children (1a.) and after these children have been randomly placed into 3 groups, we will fill in all the information needed on the student answer sheet prior to testing, so that teachers or students need not waste time on this procedure.
- (2) The principal and the selected team teachers will receive their instruments prior to our visitation. Complete instructions will be included with the instruments. We will also send simplified directions for administering the math and reading achievement tests, in order that the teachers may review the directions prior to testing.

*A researcher will be administering the self-concept test.

WHILE AT YOUR SCHOOL:(1) Meeting with Teachers

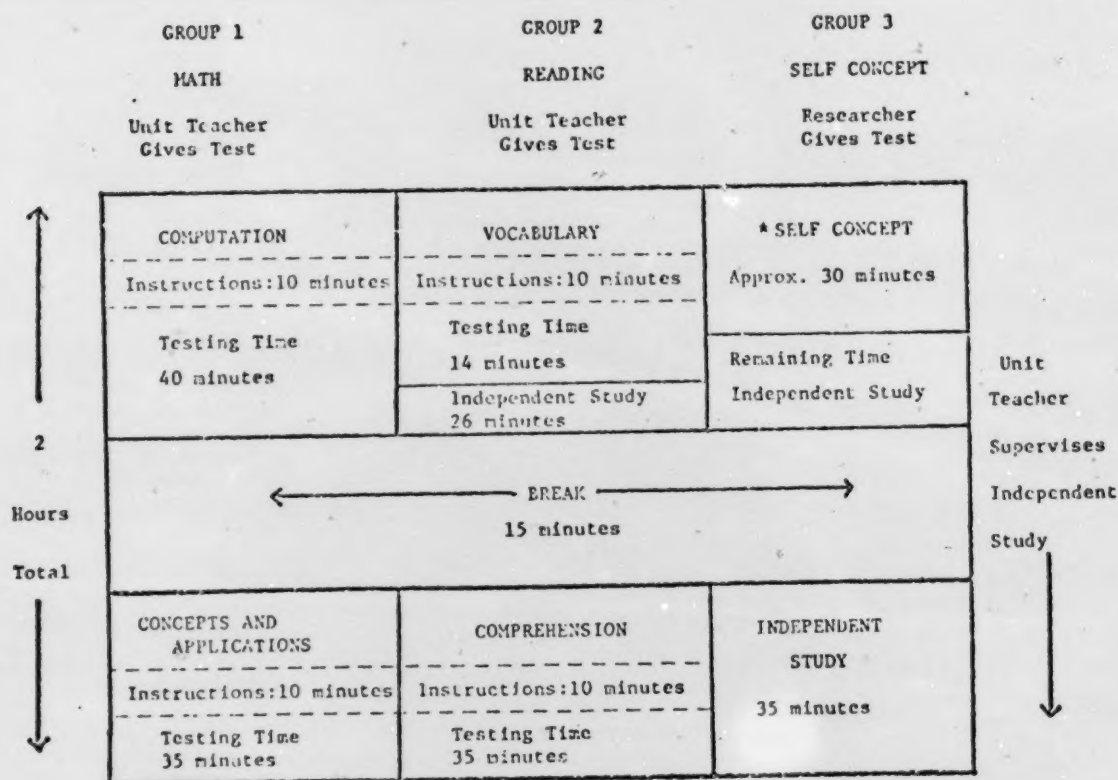
We would like to arrive at your school in the morning of the day of testing, to meet with the selected team to discuss final arrangements for the testing procedure, and to help in any way possible. This would necessitate a specified meeting time of at least one half hour. We would like to begin testing in the morning whenever possible and finish by 11:00. We would appreciate meeting with the principal from 11:00 until noon.

*Emphasis supplied for this study only

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(2) Testing Procedure for Children

We are requesting that children in the selected unit be divided by team members according to the grouping list as indicated in (1d.) above. The testing times of each test are shown in a diagram below. As indicated, each test requires different amounts of time. This will necessitate the need for quiet-independent study (i.e., library book, seat work, etc.) for some students when they are not engaged in testing. We would appreciate team teachers preparing these students for this independent study, especially in Group 3, for these children will have a considerable amount of free time.



This grouping arrangement requires that one unit teacher be assigned to Group 1 and one unit teacher to Group 2 to administer the appropriate test to that group. The researcher will be responsible for giving the Self Concept Test, and will serve as overall facilitator of the testing procedure.

-3-

An example of a specific time schedule might look like the following:

8:00 - 8:30:	Meeting with Faculty
9:00 - 9:50:	(1) <u>Math Group</u> takes Computation test.
	(2) <u>Reading Group</u> takes Vocabulary test and does independent study.
	(3) * <u>Self Concept Group</u> takes entire test and does independent study.
9:50 - 10:10:	BREAK (OUTDOORS) FOR ALL CHILDREN
10:15 - 11:00:	(1) <u>Math Group</u> takes Concepts and Applications test.
	(2) <u>Reading Group</u> takes Comprehension test.
	(3) * <u>Self Concept Group</u> engages in independent study.
11:00 - Noon:	Meet with Principal

This time schedule may vary for your school, and we do want to accommodate whatever arrangement that best suits your needs.

APPENDIX F
VISITATION AGENDA



the
Wisconsin
Research and Development Center
for Cognitive
Learning

201

the University of Wisconsin 1025 West Johnson Street Madison, Wisconsin 53706 (608)262-4901

Agenda for Morning Meeting at School

1. (a) Do students know what group they are in?
- (b) Have plans been made for special education students?
- (c) Facilities for the grouping?

Who will administer the tests?

	<u>Person</u>	<u>Space Designation</u>	<u>Time of Test</u>
1) Math	_____	_____	_____
2) Reading	_____	_____	_____
3) Self-Concept	<u>Researcher</u>	_____	_____

2. Have you made arrangements for individual study? What is your proposed schedule?
3. (a) CTBS
- (b) Check answer sheets for correct grade equivalent, age, sex, level, form. (Students' names will not be used on answer sheets).
4. Teachers, Unit leader, and Principal instruments.
5. New students.

APPENDIX G
McISAAC COMPUTER PROGRAMS

1. B Complex: program to weight the building complexity measure of the Background Information instrument for principals.
2. Complx: composited mean scores of building complexity after weighting and derived from Background Information instrument for principals.
3. O Complx-MSCR: derived mean scores of questions 4, 11, 13 and 14 (individual professional complexity) and question 1 (individual educational complexity of the Background Information instrument for principals, unit leaders, and unit teachers.
4. O Complex-TSCR: derived T scores for educational complexity and professional complexity.
5. P Complex: derived mean and T scores for composite professional complexity score from questions 1, 4, 11, 13, and 14 of Background Information instrument for principals, unit leaders, and unit teachers.
6. All Complex: derived T scores for building complexity and professional complexity.
7. MRG Complex: composited T scores of professional complexity and building complexity to obtain aggregated organizational complexity score.
8. MNSRFSTLD: mean scores for measures of formalization, stratification, principal leadership, and unit leader leadership.
9. MRGFRSTLD: composited mean scores for measures of formalization, stratificatuibm principal leadership, and unit leader leadership.
10. JS-Sat: composite of raw data from job satisfaction instrument (responded to by principals, unit leaders, and unit teachers) to scaled school means.
11. DMJS-Scales: composited scale means and a total job satisfaction score for each school.
12. Dicrt: composite means for centralization measure, question 1 of Decision Involvement Analysis instrument with scores for all three scales and a total centralization score.
13. Lookup: subroutine of Program Dicrt which scales DIA into scores for extra-school, school-wide, and unit-wide.
14. DIA Final: composited scales means for the DIA for each school and a total centralization score.

APPENDIX H
INSTRUMENTATION

Form Approved
OMB No: 51-S75077
Approval Expires June 1976

DECISION INVOLVEMENT ANALYSIS

You are participating in a study being conducted by the Wisconsin Research and Development Center for Cognitive Learning. The purpose of this instrument is to determine the nature of involvement in the decision-making process in ICE Multiunit Elementary Schools.

This instrument consists of 20 decision items about which questions are asked. Completion of the entire instrument should require less than fifteen minutes of your time. All responses will remain confidential and none will be identified by person, school, or school district.

Please answer the four questions asked about each decision item by placing your responses in the spaces provided. A sample item, which has been marked, is provided for your convenience. Upon completing the instrument, please place it in the envelope provided and hold it for the researcher who will visit your school and pick up your envelope of completed instruments.

Your participation in this study is sincerely appreciated.

Published by The Wisconsin Research and Development Center for Cognitive Learning, supported in part as a research and development center by funds from the National Institute of Education, Department of Health, Education and Welfare. The opinions expressed herein do not necessarily reflect the position of the National Institute of Education and no official endorsement by the National Institute of Education should be inferred.

DECISION INVOLVEMENT ANALYSIS

Questions

Sample Item

Please answer the following four questions in terms of your school by placing the appropriate number of the response in the boxes provided for each decision item. The responses are listed in the right hand column of this sheet. Place only one answer in each box.

The allocation of materials, equipment, and supplies to units within your school

1. Which person or group presently makes the final decision on this item?
2. Which person or group should make the final decision on this item?

1. 5

2. 7

-
3. How much involvement do you presently have in making this decision?

3. 2

-
4. To what extent are you satisfied with your involvement in making this decision?

4. 1

Use the Following Numbers to Respond to Questions 1 and 2.

- 1 - Board of Education
- 2 - Superintendent or Other Central Office Personnel
- 3 - Negotiation Teams
- 4 - Systemwide Program (Policy) Committee (SPC)
- 5 - Principal or Assistant Principal
- 6 - Entire Faculty as a Group
- 7 - Instructional Improvement Committee (IIC)
- 8 - Unit Leader
- 9 - Unit Teachers as a Group (I & R Unit)
- 10 - Individual Teacher
- 11 - Parents or Parent Advisory Committee
- 12 - Student
- 13 - No One Presently Responsible

Use the Following Numbers to Respond to Question 3.

- 1 - Very little involvement
- 2 - Little involvement
- 3 - Some involvement
- 4 - Much involvement
- 5 - Very much involvement

Use the Following Numbers to Respond to Question 4.

- 1 - Not satisfied
- 2 - Somewhat satisfied
- 3 - Satisfied
- 4 - Quite satisfied
- 5 - Very satisfied

Decision content items are as follows:

1. The approval of instructional materials to purchased
2. The coordination of curriculum across units within your school
3. The amount of planning time provided teachers for unit-related activities.
4. The procedures to be utilized in evaluating instructional materials within your school.
5. The criteria to be utilized in evaluating instructional programs within your school
6. The number and nature of parent-teacher conferences
7. The procedures to be utilized in evaluating the principal's performance
8. The groupings to be utilized for instruction (one-to-one, small groups, etc.)
9. The procedures to be utilized in pre-assessing an individual student's level of achievement, learning style, and level of motivation
10. The design and content of the curriculum within your I & R Unit
11. The procedures to be utilized in evaluating teacher performance
12. The criteria to be utilized in evaluating preservice and inservice programs
13. The nature and extent of consultant help from outside your school
14. The transfer of teachers from one I & R unit to another I & R unit within your school
15. The topics for the inservice program
16. The area(s) in which unit teachers should specialize
17. The specific instructional objectives each child is to attain
18. The amount and nature of supervision of teaching methods
19. The budget for your school
20. The extent of involvement of parent advisory groups in the programs of your school

Form Approved

OMB No: 51-S75077

Approval Expires June 1976

PRINCIPAL LEADERSHIP ASSESSMENT

You are participating in a study conducted by the Wisconsin Research and Development Center for Cognitive Learning. The purpose of this instrument is to determine the nature of the principal's leadership in IGE Multiunit Elementary Schools.

This instrument to be completed by the unit (team or learning community) leader and staff teachers consists of 24 leadership items. The items are used in this study by permission of Dr. David G. Bowers and are adapted from the Survey of Organizations Questionnaire developed by the Institute for Social Research, The University of Michigan Organizational Development Research Program. Completion of the entire instrument should require about 10 minutes of your time. It is important that all items receive a response as any item left blank will give a distorted picture of your school. All responses will remain confidential and none will be identified by person, school, or school district.

Please answer the questions about each item by placing your response in the space provided. Upon completing the instrument please place it in the envelope provided and hold it for the researcher who will visit your school and pick up your sealed envelope of completed instruments.

Your participation in this study is sincerely appreciated.

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PRINCIPAL LEADERSHIP ASSESSMENT

Directions:

Indicate your feelings concerning the leadership of the principal of your school. For each item please answer by circling the number in the column most accurately describing your feelings.

- 1 = To a very little extent
- 2 = To a little extent
- 3 = To some extent
- 4 = To a great extent
- 5 = To a very great extent

- | | | | | | |
|--|---|---|---|---|---|
| 1. How friendly and easy to approach is your principal? | 1 | 2 | 3 | 4 | 5 |
| 2. When you talk with your principal to what extent does he/she pay attention to what you're saying? | 1 | 2 | 3 | 4 | 5 |
| 3. To what extent is your principal willing to listen to your problems? | 1 | 2 | 3 | 4 | 5 |
| 4. How much does your principal encourage people to give their best effort? | 1 | 2 | 3 | 4 | 5 |
| 5. To what extent does your principal maintain high standards of performance? | 1 | 2 | 3 | 4 | 5 |
| 6. To what extent does your principal show you how to improve your performance? | 1 | 2 | 3 | 4 | 5 |
| 7. To what extent does your principal provide the help you need so that you can schedule work ahead of time? | 1 | 2 | 3 | 4 | 5 |
| 8. To what extent does your principal offer new ideas for solving job related problems? | 1 | 2 | 3 | 4 | 5 |
| 9. To what extent does your principal encourage the persons who work for him/her to work as a team? | 1 | 2 | 3 | 4 | 5 |
| 10. To what extent does your principal encourage people who work for him/her to exchange opinions and ideas? | 1 | 2 | 3 | 4 | 5 |
| 11. To what extent do you feel your principal has confidence and trust in you? | 1 | 2 | 3 | 4 | 5 |
| 12. To what extent do you have confidence and trust in your principal? | 1 | 2 | 3 | 4 | 5 |

- 1 - To a very little extent
- 2 - To a little extent
- 3 - To some extent
- 4 - To a great extent
- 5 - To a very great extent

13. To what extent does your principal handle the technical side of his/her job--for example, general expertness, knowledge of job, technical skills needed in the profession? 1 2 3 4 5
14. To what extent does your principal do a good job of representing your work group to other units? ("Represent" means telling others about what your group has done and can do, as well as explaining the problems facing it and its readiness to do things.) 1 2 3 4 5

In order to be an effective leader, a principal needs certain kinds of information, skills, values, and situations. To what extent does your principal have each of the following:

15. Information about his/her people see and feel about things? 1 2 3 4 5
16. Knowledge of what it takes to be a good leader? 1 2 3 4 5
17. An attitude which encourages participation and commitment from those who work for him/her? 1 2 3 4 5
18. Administrative Skills? 1 2 3 4 5
19. Skills for getting along with others? 1 2 3 4 5
20. A work situation which allows him/her to be a good leader? 1 2 3 4 5
21. Interest and concern for the people who work for him/her? 1 2 3 4 5

When it is necessary for decisions to be made that affect your work group, to what extent does your principal/unit leader do each of the following before final decisions are made?

22. Provide the members of your work group with information about the decisions? 1 2 3 4 5
23. Ask for opinions and ideas from members of your work group? 1 2 3 4 5
24. Meet with his/her teachers as a group, present problems that must be solved and work with the group to find solutions? 1 2 3 4 5

Form Approved
OMB No: 51-S75077
Approval Expires June 1976

UNIT LEADER LEADERSHIP ASSESSMENT

You are participating in a study conducted by the Wisconsin Research and Development Center for Cognitive Learning. The purpose of this instrument is to determine the nature of the unit, team, or learning community leader's leadership in IGE Multiunit Elementary Schools.

This instrument to be completed by the unit (team or learning community) teachers consists of 24 leadership items. These items are used in this study by permission of Dr. David H. Bowers and are adapted from the Survey of Organizations Questionnaire developed by the Institute for Social Research, The University of Michigan Organizational Development Research Program.

Completion of the entire instrument should require about 10 minutes of your time. It is important that all items receive a response as any item left blank will give a distorted picture of your school. All responses will remain confidential and none will be identified by person, school, or school district.

Please answer the questions about each item by placing your response in the space provided. Upon completing the instrument please place it in the envelope provided and hold it for the researcher who will visit your school and pick up your sealed envelope of completed instruments.

Your participation in this study is sincerely appreciated.

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UNIT LEADER LEADERSHIP ASSESSMENT

Directions:

Please indicate your feelings concerning the leadership of the unit leader in your unit. (Unit leader refers to the person who is responsible for coordinating the activities of the unit, team, or learning community.) For each item please answer by circling the number in the column most accurately describing your feelings.

- 1 = To a very little extent
- 2 = To a little extent
- 3 = To some extent
- 4 = To a great extent
- 5 = To a very great extent

- | | | | | | |
|---|---|---|---|---|---|
| 1. How friendly and easy to approach is your unit leader? | 1 | 2 | 3 | 4 | 5 |
| 2. When you talk with your unit leader to what extent does he/she pay attention to what you're saying? | 1 | 2 | 3 | 4 | 5 |
| 3. To what extent is your unit leader willing to listen to your problems? | 1 | 2 | 3 | 4 | 5 |
| 4. How much does your unit leader encourage people to give their best effort? | 1 | 2 | 3 | 4 | 5 |
| 5. To what extent does your unit leader maintain high standards of performance? | 1 | 2 | 3 | 4 | 5 |
| 6. To what extent does your unit leader show you how to improve your performance? | 1 | 2 | 3 | 4 | 5 |
| 7. To what extent does your unit leader provide the help you need so that you can schedule work ahead of time? | 1 | 2 | 3 | 4 | 5 |
| 8. To what extent does your unit leader offer new ideas for solving job related problems? | 1 | 2 | 3 | 4 | 5 |
| 9. To what extent does your unit leader encourage the persons who work with him/her to work as a team? | 1 | 2 | 3 | 4 | 5 |
| 10. To what extent does your unit leader encourage people who work with him/her to exchange opinions and ideas? | 1 | 2 | 3 | 4 | 5 |
| 11. To what extent do you feel your unit leader has confidence and trust in you? | 1 | 2 | 3 | 4 | 5 |
| 12. To what extent do you have confidence and trust in your unit leader? | 1 | 2 | 3 | 4 | 5 |

- 1 = To a very little extent
- 2 = To a little extent
- 3 = To some extent
- 4 = To a great extent
- 5 = To a very great extent

13. To what extent does your unit leader handle the technical side of his/her job--for example, general expertness, knowledge of job, technical skill needed in the profession? 1 2 3 4 5
14. To what extent does your unit leader do a good job of representing your work group to other units? ("Represent" means telling others about what your group has done and can do, as well as explaining the problems facing it and its readiness to do things.) 1 2 3 4 5

In order to be an effective leader, unit leader needs certain kinds of information, skills, values, and situations. To what extent does your unit leader have each of the following:

15. Information about how his/her people see and feel about things? 1 2 3 4 5
16. Knowledge of what it takes to be a good leader? 1 2 3 4 5
17. An attitude which encourages participation and commitment from those who work with him/her? 1 2 3 4 5
18. Administrative Skills? 1 2 3 4 5
19. Skills for getting along with others? 1 2 3 4 5
20. A work situation which allows him/her to be a good leader? 1 2 3 4 5
21. Interest and concern for the people who work with him/her? 1 2 3 4 5

When it is necessary for decisions to be made that affect your work group, to what extent does your unit leader do each of the following before final decisions are made?

22. Provide the members of your work group with information about the decisions? 1 2 3 4 5
23. Ask for opinions and ideas from members of your work group? 1 2 3 4 5
24. Meet with his/her teachers as a group, present problems that must be solved and work with the group to find solutions? 1 2 3 4 5

Form Approved
OMB No: 51-S75077
Approval Expires June 1976

JOB SATISFACTION SURVEY

You are participating in a study conducted by the Wisconsin Research and Development Center for Cognitive Learning. The purpose of this instrument is to determine the nature of job satisfaction in ICE Multiunit Elementary Schools.

This instrument to be completed by the unit (team or learning community) leader and staff teachers consists of 50 job satisfaction items. Completion of the entire instrument should require about 30 minutes of your time. It is important that all items receive a response as any item left blank will give a distorted picture of your school. All responses will remain confidential and none will be identified by person, school, or school district.

Please answer the questions about each item by placing your response in the space provided. Upon completing the instrument please place it in the envelope provided and hold it for the researcher who will visit your school and pick up your sealed envelope of completed instruments.

Your participation in this study is sincerely appreciated.

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JOB SATISFACTION SURVEY

Directions: Please indicate your feelings of satisfaction with your situation. For each item please answer by circling the number in the column most accurately describing your feelings.

- 1 - Not satisfied
- 2 - Somewhat satisfied
- 3 - Satisfied
- 4 - Quite satisfied
- 5 - Very satisfied

How satisfied are you with:

- | | | | | | |
|--|---|---|---|---|---|
| 1. the professional competence and leadership of your building administrators? | 1 | 2 | 3 | 4 | 5 |
| 2. the ability of your building administrators to encourage people to work together? | 1 | 2 | 3 | 4 | 5 |
| 3. the manner in which school policies and regulations are enforced? | 1 | 2 | 3 | 4 | 5 |
| 4. the recognition you receive from your building administrators for your teaching achievements? | 1 | 2 | 3 | 4 | 5 |
| 5. the procedures used to evaluate teachers in your school? | 1 | 2 | 3 | 4 | 5 |
| 6. the fairness of the building administration in the assigning of extra duties? | 1 | 2 | 3 | 4 | 5 |
| 7. the opportunities provided to discuss problems with building administrative personnel? | 1 | 2 | 3 | 4 | 5 |
| 8. the trust you have in your building administrators? | 1 | 2 | 3 | 4 | 5 |
| 9. the administrators' trust in you? | 1 | 2 | 3 | 4 | 5 |
| 10. the innovativeness of your building administrators? | 1 | 2 | 3 | 4 | 5 |
| 11. the personal and social relationships you have with other teachers? | 1 | 2 | 3 | 4 | 5 |
| 12. the recognition you get from other teachers for your work? | 1 | 2 | 3 | 4 | 5 |
| 13. the quality of work of other teachers in your school? | 1 | 2 | 3 | 4 | 5 |
| 14. the amount of work done by other teachers in your school? | 1 | 2 | 3 | 4 | 5 |

- 1 = Not satisfied
- 2 = Somewhat satisfied
- 3 = Satisfied
- 4 = Quite satisfied
- 5 = Very satisfied

How satisfied are you with:

- | | | | | | |
|--|---|---|---|---|---|
| 15. teaching, in light of what you expected to be doing as a teacher? | 1 | 2 | 3 | 4 | 5 |
| 16. your future in your school district? | 1 | 2 | 3 | 4 | 5 |
| 17. your opportunities for growth in your profession? | 1 | 2 | 3 | 4 | 5 |
| 18. your school as an organization to work for? | 1 | 2 | 3 | 4 | 5 |
| 19. the professionalism your school district shows toward teachers? | 1 | 2 | 3 | 4 | 5 |
| 20. the degree of your involvement in your school? | 1 | 2 | 3 | 4 | 5 |
| 21. the general reputation of your school? | 1 | 2 | 3 | 4 | 5 |
| 22. the opportunities that you have to influence school policy? | 1 | 2 | 3 | 4 | 5 |
| 23. your awareness of what is "going on" in your school? | 1 | 2 | 3 | 4 | 5 |
| 24. the goals emphasized by your school? | 1 | 2 | 3 | 4 | 5 |
| 25. the amount of money you make? | 1 | 2 | 3 | 4 | 5 |
| 26. the salary schedule and fringe benefits in your school district? | 1 | 2 | 3 | 4 | 5 |
| 27. the physical facilities of your school? | 1 | 2 | 3 | 4 | 5 |
| 28. the number of students accommodated in your school? | 1 | 2 | 3 | 4 | 5 |
| 29. the availability of appropriate instructional materials and equipment? | 1 | 2 | 3 | 4 | 5 |
| 30. the arrangement of space and equipment in your school? | 1 | 2 | 3 | 4 | 5 |
| 31. the amount of preparation time provided for teachers in your school? | 1 | 2 | 3 | 4 | 5 |
| 32. the custodial services provided in your school? | 1 | 2 | 3 | 4 | 5 |
| 33. the quality of the work you do? | 1 | 2 | 3 | 4 | 5 |
| 34. the extent to which you are motivated by your job? | 1 | 2 | 3 | 4 | 5 |

- 1 = Not satisfied
- 2 = Somewhat satisfied
- 3 = Satisfied
- 4 = Quite satisfied
- 5 = Very satisfied

How satisfied are you with:

- | | | | | | |
|---|---|---|---|---|---|
| 35. the freedom that you have to experiment with instructional methods? | 1 | 2 | 3 | 4 | 5 |
| 36. the intellectual stimulation that you receive from your work? | 1 | 2 | 3 | 4 | 5 |
| 37. the opportunities that you have to teach in your major areas of interest? | 1 | 2 | 3 | 4 | 5 |
| 38. the amount of work you are expected to do? | 1 | 2 | 3 | 4 | 5 |
| 39. the amount of time that you actually spend in teaching? | 1 | 2 | 3 | 4 | 5 |
| 40. the total time that you spend with students? | 1 | 2 | 3 | 4 | 5 |
| 41. the number of students for whom you are responsible? | 1 | 2 | 3 | 4 | 5 |
| 42. the extent to which you are able to meet your students' academic needs? | 1 | 2 | 3 | 4 | 5 |
| 43. the extent to which you are able to meet your students' affective needs? | 1 | 2 | 3 | 4 | 5 |
| 44. the quality of your interactions with your students? | 1 | 2 | 3 | 4 | 5 |
| 45. the extent to which the community recognizes and appreciates its educators? | 1 | 2 | 3 | 4 | 5 |
| 46. the adequacy of financial support provided your school by the community? | 1 | 2 | 3 | 4 | 5 |
| 47. the understanding of your school's program by parents and the community? | 1 | 2 | 3 | 4 | 5 |
| 48. the community's involvement in your school's program? | 1 | 2 | 3 | 4 | 5 |
| 49. the methods used to communicate with the community about your school? | 1 | 2 | 3 | 4 | 5 |
| 50. the methods used to report student progress to parents? | 1 | 2 | 3 | 4 | 5 |

Form Approved
OMB No: 51-375077
Approval Expires June 1976

BACKGROUND INFORMATION AND ORGANIZATIONAL STRUCTURE SURVEY

(Form T)

You are participating in a study conducted by the Wisconsin Research and Development Center for Cognitive Learning. The purpose of the instrument is to obtain background data and to determine the nature of the organizational structure in ICE Multiunit Elementary Schools.

This instrument to be completed by the unit, (team or learning community) teachers consists of 18 background items and 21 stratification and formalization items. Completion of the entire instrument should require about 20 minutes of your time. It is important that all items receive a response as any item left blank will give a distorted picture of your school. All responses will remain confidential and none will be identified by person, school, or school district.

Please answer the questions about each item by placing your response in the space provided. Upon completing the instrument please place it in the envelope provided and hold it for the researcher who will visit your school and pick up your sealed envelope of completed instruments.

Your participation in this study is sincerely appreciated.

Published by the Wisconsin Research and Development Center for Cognitive Learning, supported in part as a research and development center by funds from the National Institute of Education, Department of Health, Education and Welfare. The opinions expressed herein do not necessarily reflect the position of the National Institute of Education and no official endorsement by the National Institute of Education should be inferred.

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Part I

Directions: Indicate the proper response in the space provided for each question.

- ____ 1. Highest level of professional preparation completed.
1. Bachelors Degree
 2. Bachelors Degree + 16 credits
 3. Masters Degree
 4. Masters Degree + 16 credits
 5. Masters Degree + 32 credits
 6. Doctoral Degree
- ____ 2. Are you presently enrolled in a degree program?
1. Yes
 2. No
- ____ 3. Have you given any presentations or written articles for professional organizations in the past 5 years?
1. Yes
 2. No
- ____ 4. If yes to above question 3, indicate the approximate number.
- ____ 5. Sex
1. Female
 2. Male
- ____ 6. Have you participated in a staff development workshop in which you were trained to implement IGE/MUS-E?
1. Yes
 2. No
- ____ 7. Indicate the total number of years of your teaching experience.
- ____ 8. Indicate the total number of years that you have been a teacher in this district?
- ____ 9. Indicate the total number of years as a teacher in your present school.
- ____ 10. Indicate the total number of years you have been a teacher in an IGE school.

- ___ 11. Indicate the number of district committees of which you are a member (i.e., curriculum, SPC, in-service, etc.).
- ___ 12. Indicate the number of professional organizations to which you belong.
- ___ 13. Indicate the number of professional organization meetings you attend each school year.
- ___ 14. Indicate the number of offices that you hold or have held in the past 5 years in professional organizations.
- ___ 15. Indicate your age.
- ___ 16. How many times a week does your unit, team, or learning community meet?
- ___ 17. What amount of time does your unit, team, or learning community spend in planning and coordinating activities each week?
- ___ 18. Indicate the total years you have been a member of your present team, unit, or learning community.

Directions: Please circle the answer which best describes your situation.

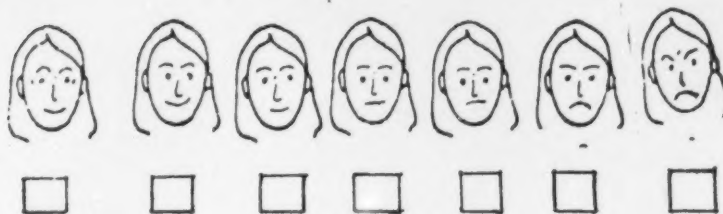
- 1 = To a very little extent
 2 = To a little extent
 3 = To some extent
 4 = To a great extent
 5 = To a very great extent

- | | | | | | |
|--|---|---|---|---|---|
| 1. To what extent are you guided by written procedures or operational guidelines which specify how to do your job? | 1 | 2 | 3 | 4 | 5 |
| 2. To what extent do you develop your own methods and procedures in doing your job? | 1 | 2 | 3 | 4 | 5 |
| 3. To what extent is going through proper channels stressed in your school? | 1 | 2 | 3 | 4 | 5 |
| 4. To what extent are school work rules and procedures explicitly defined? | 1 | 2 | 3 | 4 | 5 |
| 5. To what extent are you expected strictly to follow rules and procedures? | 1 | 2 | 3 | 4 | 5 |
| 6. To what extent are you hindered from doing your job by rules and regulations? | 1 | 2 | 3 | 4 | 5 |

- 1 = To a very little extent
 2 = To a little extent
 3 = To some extent
 4 = To a great extent
 5 = To a very great extent

- | | | | | | |
|--|---|---|---|---|---|
| 7. To what extent do you feel it is necessary to "work around" certain policies and regulations of the school? | 1 | 2 | 3 | 4 | 5 |
| 8. To what extent do some teachers in your school get first choice of instructional materials than others? | 1 | 2 | 3 | 4 | 5 |
| 9. To what extent do some teachers have fewer duties than others? | 1 | 2 | 3 | 4 | 5 |
| 10. To what extent are some teachers not required to follow the rules and procedures as closely as others? | 1 | 2 | 3 | 4 | 5 |
| 11. To what extent are some teachers assigned better teaching facilities than others? | 1 | 2 | 3 | 4 | 5 |
| 12. To what extent do some teachers have more say regarding school policies than others? | 1 | 2 | 3 | 4 | 5 |
| 13. To what extent do some teachers have more status than others? | 1 | 2 | 3 | 4 | 5 |
| 14. To what extent do some teachers have a closer relationship with the administration than do others? | 1 | 2 | 3 | 4 | 5 |
| 15. To what extent are some teachers better able to get what they want into the school budget than others? | 1 | 2 | 3 | 4 | 5 |
| 16. To what extent are some teachers more readily accepted by their peers than others? | 1 | 2 | 3 | 4 | 5 |
| 17. To what extent are some teachers allowed to spend more school money than others? | 1 | 2 | 3 | 4 | 5 |
| 18. To what extent are some teachers respected by students and parents more than are others? | 1 | 2 | 3 | 4 | 5 |
| 19. To what extent do some teachers have more prestige than others? | 1 | 2 | 3 | 4 | 5 |

20. Please put a check under the face of the appropriate response set that best expresses your overall feelings about your school:



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